

# **FY09 CHUGACH NATIONAL FOREST RESOURCES ACCOMPLISHMENT REPORT**

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1/6/2010

This report contains year-end work chunk accomplishments in the Resources Staff Area. Accomplishments are reported by work chunk and by Administrative Unit

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## **NFVW – Watershed, Vegetation, Noxious Weeds, and Air Programs**

### **WC BASE01 – NFVW Technical Services – Supervisor’s Office**

**\$68,200 – SO Watershed Program**

**\$25,365 – SO Vegetation Program**

**\$9,957 – SO Noxious Weeds Program**

Administrative costs for staff members associated with NFVW Watershed, Vegetation, and Noxious Weeds (invasive plant) programs in the Supervisor’s Office included current and out-year work planning and budgeting, reporting, responses to internal and external requests for information, travel, training, leave, and forest-wide special projects.

### **WC BASE02 – NFVW Watershed Technical Services – Glacier Ranger District**

**\$16,000 – GRD Watershed Program**

**\$6,574 – GRD Noxious Weeds Program**

Funding provided support for direction of the Glacier Ranger District Watershed and Noxious Weeds (invasive plant) programs, including current and out-year budgeting, planning, reporting, supervising, and coordination with other agencies’ partners, participation on regional teams, travel, training, and annual leave.

### **WC BASE03 – NFVW Technical Services – Cordova Ranger District**

**\$17,000 – CRD Watershed Program**

**\$6,494 – CRD Noxious Weeds Program**

Administrative duties within the Cordova Ranger District NFVW Watershed and Noxious Weeds (invasive plant) programs included current and out-year work planning and budgeting, reporting, responses to internal and external requests for information, travel, training, leave, and Forest-wide special projects.

### **WC BASE04 - NFVW Technical Services – Seward Ranger District**

**\$36,000 – SRD Watershed Program**

**\$42,320 – SRD Vegetation Program**

**\$7,485 – SRD Noxious Weeds Program**

Administrative costs for Seward Ranger District Resources Staff associated with NFVW Watershed, Vegetation, and Noxious Weeds (invasive plant) programs included current and out-year work planning and budgeting, reporting, responses to internal and external requests for information, travel, professional development training, leave (annual, sick, holidays), and special projects.

### **WC BASE10 – NFVW Technical Services – Glacier Ranger District**

**\$9,000 – CNF Air Program**

The air program work focused on the update and finalization of the 1997 report on air quality using lichens with two contracts. The first contract was to enter remaining data into database, update with better location data and add that data to database, and generate a revised species list for the Chugach National Forest. The second contract is to update and finalize the draft CNF report using the updated data from the first contract. Both contracts have been awarded but contractors are still doing the work.

## **NFVW Watershed – Use**

### **WC USE01 – SRD Watershed Environmental Education Program**

**\$6,500 – SRD**

#### **Target: 3 events (accomplished)**

In partnership with Alaska Department of Fish and Game, we attended the Salmon Celebration in Kasilof, Alaska and presented a program entitled “What is a Watershed”. This hands-on activity demonstrates how water flows through a watershed and the various collection points. This activity also teaches the importance of watersheds to fish, wildlife, and humans. We had approximately 746 students, teachers, parents and home school students from Kenai, Soldotna, Nikiski, Anchor Point and Kasilof Schools. This program was done twenty times to twenty different groups of kids.



We also partnered with Alaska Fish and Game at the Salmon Celebration to present another program called “Building a Watershed”. We explained the various parts of a watershed and demonstrated the dynamics of this watershed utilizing the stream-table. Each group of kids would discuss the various parts of a watershed and then construct the watershed in the stream-table then we would turn on the water and see how the dynamics of water changed the watershed

with varying stages of water flow.

We presented the program “The Incredible Journey” at the Seward Ranger District’s Environmental Awareness Days. The objectives of this program are for the students to describe the movement of water within the water cycle and to identify the different states as it moves through the cycle. These objectives are met with a hands-on approach as the students are the water molecules at different states such as clouds, plants, animals, rivers, oceans, lakes ground water, soil, and glaciers. The students then discover how water moves from one location to another and in which form. Approximately 100 students, parents, and teachers from Seward Elementary, Hope, Cooper Landing and Moose Pass Schools along with the local area home school kids attended the program. This program was done twelve times in two days to six different groups of kids each day.

### **WC USE02 – GRD Watershed Environmental Education Program**

**\$6,500 - GRD**

#### **Target: 3 events (accomplished)**

The District fisheries and ecology staff worked in cooperation with the Interpretation and Conservation Education staff to incorporate watershed related information into presentations, talks, field trips for schools, Forest visitors, and local community events.

- ***BBVC Field Trips:*** Students explore the interpretive displays in the BBVC, work on age-appropriate scavenger hunts, watch the film “Voices from the Ice” and take a short hike, all of which include components relating to the importance of properly functioning watersheds on the Forest. **(Field trips to BBVC: 35, with 812 kids and 45 adults)**

- Interpretive Talk, “Salmon of Alaska”: Presentations took place at the Williwaw Fish Viewing Platform in Portage Valley when the salmon are spawning, and aboard the AMHS vessel *M/V Aurora*. Theme focused on the identification of the five salmon species found locally, their life cycles, the importance of healthy watersheds to these populations, and the benefits of fisheries on the Chugach NF. **(Programs at WFVP: 7 with 873 contacts; Programs aboard M/V Aurora: 37 with 1278 contacts)**
- King Career Development Center Presentation: District fisheries biologist and ecologist attended classroom sessions at the King Career Development Center to provide presentations on the fisheries and watershed programs on the District. **(Two classes – 50 students)**

**WC USE03 – CRD Watershed Environmental Education Program  
\$6,500- CRD**

**Target: 3 events (accomplished)**

The crew provided three watershed educational programs to the public this year. The crew partnered with the Prince William Sound Science Center and interacted with their science camp kids. A field trip took place in the Alaganik watershed and the crew discussed the components of a healthy watershed. We also participated in the third annual Cordova Fungus Festival; displays and talks were presented about the role of fungus within watersheds. We participated in a Copper River Watershed Project children’s project. At the first we talked about our local Eyak Lake watershed, pollutant sources and impacts to water quality and fish.

**WC USE04 – CNF Watershed Website  
\$6,400 – SO**

**Target: 1 website (partially accomplished)**

A draft was put together for the content of a website for the Watershed Program. Once placed on-line, this website will provide an overview of the program, hydrology links, educational links, and descriptions and documents related to ongoing and past watershed restoration projects. This website will be geared toward informing and educating the public of the restoration work being conducted and providing a location to store NEPA documents, monitoring reports, and updates. We anticipate that the draft will be finalized and placed online by January 2010.

**WC USE05 – Russian River Interpretive Signs  
\$10,011 – SRD**

**Target: 2 signs (not accomplished)**

This project included developing, designing, and producing interpretive signs to address geomorphic and hydrologic processes on the Russian River and the impacts of anglers on the stream channel. This project was not completed in FY09.

## **NFVW Watershed – Stewardship**

### **WC STW01 and STW10 – Daves Creek Stream Restoration (Year 1 of 2)**

**\$141,175 – SRD**

**Target: 10 acres (accomplished)**



A 1500-foot section of Daves Creek just downstream of the Tern Lake outlet was restored in the first year of a 2-

year restoration project. This project utilized heavy equipment to relocate the Daves Creek channel away from the Sterling Highway, where it has been incised in a roadside ditch for the past 50 years since the highway was constructed. The restored stream channel incorporates sinuosity, pool-riffle sequences, large woody debris, and floodplains to create a channel that functions under a natural setting and provides abundant beneficial habitat for aquatic species, including spawning and rearing habitat for salmon. Channel relocation and construction of floodplains and habitat features occurred in FY09 with funding through NFVW Watershed, NFWF Fisheries, and the Kenai River Sport Fishing Association. This project also included the replacement of the culvert at the Tern Lake outlet with a bridge and reconstruction of user trails in the area, funded through HTAP and CMRD. Personnel from TEAMS Enterprise were utilized as CORs for the restoration work. Additional restoration work to be done with ARRA and partner funding in FY10 (year-2) will include adjustments of floodplain elevations, spreading of soil onto the new floodplains to optimize vegetative growth, additional in-channel adjustments to morphology and habitat, and re-vegetation of the new floodplains and streambanks.

### **WC STW02 – Russian River Bank Restoration at Red Salmon Access**

**\$23,669 – SRD**

**Target: 2 acres (partially accomplished)**

This project was funded by NFVW Watershed and NFWF Fisheries, in partnership with the Youth Restoration Corps (YRC), to restore and rehabilitate a 120-foot long bank of the Russian River at the Red Salmon access area. The project began in October 2008 with the collection and delivery of root wads, soil, rock, and other materials to the top of the Russian River Angler Trail. This project was to re-start June 1, 2009 with the placing and anchoring of the root wads and sill log. However, the water level on the Russian was too high to safely work with root wads in the water. The crew moved the root wads down the slope to a location near the project site at the base of the slope along with the other materials. The crew then moved on to other work and was not able to complete the project before the end of the season. Approximately \$14,000 remains in the 2009 YRC Grants & Agreements operating plan. It is anticipated that the bank restoration work will be completed during the 2010 field season. During the summer of 2009, the District also moved the Russian River Angler Trail away from the bank to the base of the hillside to

reduce the potential for angler trampling along this bank and help reestablish riparian vegetation along the damaged bank.

#### **WC STW03 – Alaganik Watershed Restoration Plan**

**\$10,700 - CRD**

**Target: 1 plan (in draft)**

This project was co-funded between NFWW-watershed and NFWF-fish. The Alaganik watershed is heavily used by anglers, subsistence users, hunters and recreationists. This project evaluated opportunities for both upland and riverine watershed restoration.

#### **WC STW04 – Kenai Lake/Kenai River Reach Restoration Plan**

**\$7,850 - SRD**

**Target: 1 plan (partially accomplished)**



This project is co-funded between NFWW Watershed and NFWF Fisheries. The field portion of this project was completed and included floating the shoreline of Kenai Lake and documenting the substrate, vegetation, and erosion aspects of the shoreline to determine if the damage is naturally occurring due to wave activity or due to recreational degradation.

More extensive shore surveys were conducted at day use sites on the lake shores. From these

field reviews we were able to make suggestions of areas in need of restoration and the priority types associated with the areas. Along the lake shore there are many areas of state and private land in which we can only document potential need. We also floated the Kenai River from the outlet of Kenai Lake to Sportsman's Landing just downstream of the Russian River. Along the Kenai were also many parcels of private, state, or CIRI land holdings. We again drafted a site listing of the areas visited with measurements taken and restoration potential and priority given. We are currently working to incorporate the data into a written restoration plan and anticipate completing the plan during fiscal year 2010.

#### **WC STW05 – Hawkins Island Stream Bank Restoration**

**\$22,000 - CRD**

**Target: 2 acres (accomplished)**

Three wetland sites in the Canoe Pass area of Hawkins Island have been affected by ATV traffic. These sites are at stream crossings. The user-developed paths cross soft muskegs adjacent to the streams, and the repeated ATV traffic has damaged the wetland vegetation and impacted the soils. The stream banks are eroding at the crossing junctions. The crew used natural materials near the three sites to harden the stream banks and trails leading to the banks, and seed and revegetate the stream banks and bare soil areas in the muskegs.

**WC STW06 – Kenai River Bank Stabilization at Cooper Creek Campground**  
**\$25,196 – SRD; \$5,000 – Diversity Grant**

**Target: 2 acres (accomplished)**

This stream bank stabilization project along the Kenai River was accomplished in partnership with the Youth Restoration Corps (YRC). FY08 funding for this project was transferred to YRC, and the project began in October 2008 with the collection and delivery of root wads, sill logs, rock, soil, fiber mat, and other materials. In October 2008, YRC adult leaders and several employees from the Seward District and the Supervisor's office moved, placed, and anchored root wads and sill logs to the river bottom with duckbill cables. The project was completed in June 2009 using FY09 funding. Student employees from YRC constructed soil wraps, excavated sod and shrubs, and transported and planted these on the sill/root wad/soil wrap bank structure. Topsoil was placed and secured with sod, and a final jute matt mulch was placed and seeded. The final product was a very tight and secure bank structure that was adopted by the channel and streambank and is performing very well.

**WC STW07 – Quartz Creek Bank Restoration Maintenance**  
**\$5,000 – SRD**

**Target: 1 acre (accomplished)**

This bank restoration project was originally completed in 1997. An ice jam damaged the lead-end of the bank (part of which was restored and part disturbed bank). As it was unlikely that this reach would stabilize under the high flow experienced by that section, this Forest Service and Youth Restoration Corps partnership project re-tied the original root wads with duckbill cables and added two more root wads. YRC students then followed with soil wraps and sod, secured topsoil with matting, and seeded. This difficult bank section, which once received considerable angler trampling, is now secure and stable again and has successfully endured at least one high water event last spring.

**WC STW08 – Copper River Water Rights Reservation Application**  
**\$16,222 - CRD**

**Target: NA**

The district has been participating in a Copper River watershed-wide group for the past several years. Two years ago, the topic of in-stream water rights was introduced to the group and discussed in regards to the future of the Copper River. Regardless of many differences, one commonality is that people throughout the watershed are dependent upon the salmon runs. The one thing that everyone agrees upon is that without water there are no fish. To date, 2 in-stream water right reservation applications have been submitted upriver. The US Forest Service is located at the bottom of the Copper River watershed; the Copper River Delta that we are responsible for managing is dependent upon water flows and the sediment it moves down river to the ocean. In order to meet our Congressional management mandate for the Delta, we need to ensure there will be adequate water flows that arrive at the mouth of the river. In FY09, hydrologic data from the Million Dollar Bridge gauge was synthesized and initial fisheries information pulled together to form the basis of justification for an in-stream flow reservation. The district has also developed a partnership with Ecotrust to pursue the completion of an application

package. Both parties are actively working on completing different aspects of the package and we are in a good position to complete this two-year effort in FY10.

**WC STW09 – Resurrection Creek Restoration Planning (complete EIS)**

**\$57,027 – SRD**

**Target: 1 EIS (in progress)**

In partnership with the NFMG Minerals program, this project funded CNF specialist time and TEAMS Enterprise support to continue work on the Resurrection Creek Phase II Stream Restoration Project Environmental Impact Statement (EIS). TEAMS provided the project leader and 2 specialists. This complex project began in FY07, and initial scoping and development of the affected environment analyses occurred in FY08. Work completed in FY09 included refining the Proposed Action based on updated mining proposals from Hope Mining Company, development of alternatives and mitigation measures, development of effects analyses, additional public meetings (including a field trip), and development of the Draft Environmental Impact Statement (DEIS). The DEIS was finalized in November 2009, and the expected decision date is March 2010, pending a WO review of activities proposed in Roadless Areas.

**WC STW11 – Watershed Delineation Contract**

**\$6,500 – SO**

**Target: NA**

Development of a Watershed Boundary Dataset (WBD) for Alaska has been ongoing for the past several years. Initially coordinated through the BLM, the USGS is now coordinating completion of the WBD for all unfinished sub-basins in Alaska. The final product will be a “certified” base watershed layer that meets national standards and can be merged with the National Hydrography Dataset (NHD) streams layer that has already been developed. Alaska is the last state to be certified, partially because of the difficulties in developing consistent methodologies to delineate watershed boundaries in complex coastal areas. In FY09, the Alaska Region put together an Interagency Agreement to contribute \$43,500 from NFVW and NFIM to this effort to complete those areas that lie on National Forest lands on both the Tongass and the Chugach. Personnel from the Chugach National Forest have been working with USGS staff to provide comments and edits throughout the development process. The WBD for Alaska was submitted for national certification in October 2009, although additional work may still be required.

**WC STW12 – Soil Scientist Assistance**

**\$10,000 – SO**

**Target: NA**

Additional funding was provided in FY09 to fund assistance from Dean Davidson (retired annuitant) in implementing a variety of Youth Restoration Corps (YRC) projects as well as soil survey work on the Copper River Delta.

## **NFVW Watershed - Information**

### **WC INF01 – Ibeck Creek Bank Restoration Monitoring**

**\$2,701- CRD**

**Target: Report (accomplished)**

In FY08, the crew and Student Conservation Association Volunteers labored to restore about 505m of stream bank over a 1588m section of user-developed trail along Ibeck Creek. They rerouted sections of trail away from the edge of the creek, revegetated the disturbed areas with native plants, and placed fencing to keep anglers out of the newly planted areas. This year, the length of collapsed bank was remeasured and photos taken at previously established photo points to document the changes in vegetation. The length of collapsed bank had decreased to 168m. The re-vegetation efforts did well, with a 90.2% survival for Sitka spruce seedlings.

### **WC INF02 – NRCS Cooperative Snow Course/SNOTEL Monitoring**

**\$3,514 – SO/SRD**

**Target: data (accomplished)**

Personnel from the Seward Ranger District and the Supervisor's Office collected snow depth, snow water equivalent, and snow density data at five snow course sites on the Chugach National Forest, as part of the Alaska Cooperative snow survey program run by the Natural Resources Conservation Service (NRCS). Data were collected on approximately the first day of each month from December until May. Part of a long term dataset, these data are published by the NRCS at <http://www.ambcs.org/> and are used for making runoff forecasts and other climatic predictions.

### **WC INF03 – Kenai River Water Quality Monitoring with Kenai Watershed Forum**

**\$5,700 – SRD**

**Target: data collection (accomplished)**

In partnership with the Kenai Watershed Forum, we collected water samples from three sites on the Kenai River and tributaries in April and July. The three sites are the Cooper Landing Bridge at the outlet of Kenai Lake, the Russian River upstream of the Sanctuary, and Jim's Landing upstream of the boat launch. The samples are then transported to a lab for testing. This is a continuation of an ongoing study of hydrocarbons in the Kenai River. The Kenai Watershed Forum completed a report of the study to date in the winter of 2007. Our contribution to this partnership covered a share of the lab-work and time for Forest Service employees to collect and transport the samples.



### **WC INF04 – Placer River Watershed Restoration Plan (phase I of II)**

**\$15,000 – GRD**

**Target: data (partially completed)**

The focus of this project was to compile new and existing information, visit various sites in the watershed, and evaluate the condition of the watershed based on this information to

help complete a Watershed Restoration Plan (WRP) for the Placer River watershed. Phase II of the WRP for the Placer River Watershed will be conducted in FY10 and will include compiling a final report with a range of alternatives for addressing future watershed restoration needs as well as protection of water resources related to increased private and commercial use. Because of shifting priorities and workloads, only a portion of the data required for this WRP was collected in FY09. The remainder of the data will be collected during Phase II with funding available in FY10. Data collected in FY09 suggest that large-scale impacts are limited, but increasing human activities in the watershed are causing a variety of localized, small scale impacts.

#### **WC INF05 – Twentymile River Riparian Vegetation Monitoring**

**\$11,963 – GRD**

**Target: 1 report (in progress)**

Permanent monitoring plots were established in the Twentymile River riparian areas to monitor streambank erosion and damage and changes in vegetation cover, composition, and presence due to increasing human use and angler pressure. The design of the project followed USDA Forest Service Cover Frequency Field Guide, which also enables easy data entry into NRIS Terra/FS-NITC. The method consists of cover measurements and/or presence/absence data collected within a frame along a transect (tape). This method provides a repeatable and statistically rigorous way to detect change on a large number of species with a minimum amount of effort. Long term goals are to revisit sites every four or five years for monitoring. A report describing data collected in FY09 will be completed by January 2010.

#### **WC INF06 – Resurrection Creek Restoration Channel and Vegetation Monitoring**

**\$6,200 – SRD**

**Target: 1 report (accomplished)**

FY09 was the fourth year of post-implementation channel and vegetation monitoring of the Resurrection Creek Phase I Stream and Riparian Restoration Project. This year's monitoring included collecting photography from fixed photo points, monitoring channel morphology to identify changes that might require attention, measuring the success of recently planted vegetation, and monitoring the presence of invasive plants in the project area. Data indicate that the stream channel is adjusting by downcutting in some places and depositing sediment in others. Side channel function has diminished in some areas as a result of deposition. The growth of riparian vegetation is occurring rapidly in most places, with the exception of areas with clay-rich soils. Non-native plant species exist in the project area, but only in levels in scattered locations. A report describing the results of the FY09 monitoring and providing various recommendations has been completed.

#### **WC INF07 – Prince William Sound High Use Corridor Riparian Damage Surveys**

**\$9,872 – GRD**

**Target: 1 report (accomplished)**

Using recently completed spatial analysis maps indicating areas of high permitted and public use in western Prince William Sound (PWS), parameters were developed to identify sites of conflict between recreational use and riparian health and aquatic habitats. Ten sites with potential conflicts were identified, each adjacent to an anadromous stream.

Of the 10 sites visited, only 1 site contained identifiable riparian damage in the form of streambank erosion as a direct result of human use. A total of 6 photo-monitoring survey locations were established along the riparian areas of streams, 1 per site, to monitor the effects of future permitted use within these high use corridors. Each survey location was established in accordance with known USFS protocols. Photo monitoring surveys will be replicated on a 3 to 4 year cycle at the established locations. Additionally, plant surveys were conducted at each site creating a plant species listed. No invasive, threatened or endangered plant species were identified.

#### **WC INF08 – Juania Creek Watershed Restoration Plan**

**\$10,113 – CRD**

**Target: 1 plan (accomplished)**

Juania Creek is located on Hinchinbrook Island and is a small watershed that supports runs of coho, pink and chum salmon, Dolly Varden and cutthroat trout. About 67 acres were logged in the 1950s; the logging impacted watershed health and function. An interdisciplinary team (a Tongass hydrologist, Chugach fish biologist and silviculturist) evaluated the watershed on the ground, made recommendations for restoration and created a watershed restoration plan.

#### **WC INF09 – NRIS Water Training**

**\$10,400 – CNF**

**Target: Training (accomplished)**

In March 2009, 5 Chugach National Forest employees attended a 4-day training course in Juneau on the newly released Aquatic Surveys and Watershed Improvement Tracking modules of NRIS Water. This work chunk provided funding for personnel time and travel to attend this training. The training made it possible for Fisheries and Watershed staff on all districts and the SO to begin entering legacy and new data into the updated applications.

#### **WC INF10 – NRIS Water Legacy Data Entry**

**\$10,000 – CNF – Funded out of RO (NFVW01)**

**Target: Data entry (accomplished)**

Funding was provided through the Regional Office for legacy data entry into the Aquatic Surveys module of NRIS Water. In early FY09, NRIS personnel migrated all existing data in the old Aquatic Inventory and Aquatic Biota modules of NRIS Water into the new Aquatic Surveys application. In late FY09, following a training session in March, a group of 4 employees from all districts and the SO developed data entry conventions for the various types of legacy datasets and put together a data entry guide to help with consistency in data entry. Datasets were identified and cleaned up, and a number of legacy datasets were entered into Aquatic Surveys. Progress was slow because of the learning process and technical issues that had to be resolved. A small amount of data was also entered into the Watershed Improvement Tracking module. Additional legacy data will need to be entered with funding available in FY10.

## **NFVW – Vegetation Program Accomplishments**

### **WC VEG01 – Cooper Creek Restoration Implementation**

**\$104,996 – SRD**

**Target: 75 acres (0 acres accomplished)**

This project was intended to award a contract to perform hand and mechanical treatments to improve forest vegetation, improve wildlife habitat, and reduce hazardous fuels. The entire project area is 400 acres; the remaining acres are being funded by NFWF (75 acres) and WFHF (250 acres). The target accomplishment for this project was not met due to Roadless ruling pending Washington Office clearance. Funding for contract award (\$90,000) from this project was diverted to an agreement with Recreation Solutions to provide vegetation improvement NEPA support to the Seward Ranger District.

### **WC VEG02 – Bean Creek North Restoration NEPA**

**\$25,021 – SRD**

**Target: 1 NEPA decision (expected in 2010)**

The Bean Creek North Restoration NEPA project was intended to prepare a NEPA document and decision for vegetation improvement, wildlife habitat improvement, and hazardous fuel reduction. Due to changing priorities, funding for this project was used to fund the Avalanche Acres HFRA project. A decision was not signed in fiscal year 2009, but much of the analysis has been completed. The decision was not signed due to resources being diverted to higher priority projects. A signed decision is expected in early 2010. Additional contributions to this project were made by WFHF (\$25,000) and NFWF (\$25,000).

### **WC VEG03 – Stocking and Survival Surveys**

**\$8,845 – SRD**

**Target: 374 acres (312 acres accomplished)**

First and third year survival surveys were completed in areas previously planted areas in the Fuller South Fuel Reduction project area, Hope Highway Mile 5 project area, and in the Palmer Creek area. Staked row surveys were completed and results were entered into the Forest Service Activity Tracking System (FACTS). Accomplished acres are less than target acres because the value used to establish a target was different than the amount recorded in FACTS, which is the system of record. All acres showing needs for first and third year survival surveys in FACTS were completed.

### **WC VEG05 – Native Seed Collection for Revegetation**

**\$17,590 – GRD**

**Target: not defined (seed collected from 10 native herbaceous species)**

Seeds of native plant species are generally unavailable or difficult to obtain. With this work chunk we collected seeds of native species to be available for small revegetation projects, to test germination success of native species, and collect seeds to grow in our native plant gardens. In previous years, we have tried growing several species from seed. Based on those initial attempts, we have identified several species that appear to germinate well and collected larger quantities of those species. This year we collected *Carex mertensii*, *Aruncus sylvestris*, *Calamagrostis canadensis*, *Deschampsia*

*behringensis*, and *Geum macrophyllum* in larger quantities to be used for revegetation. We also collected *Iris setosa*, *Tellima grandiflora*, *Dodecatheon pulchellum*, *Aquilegia formosa*, and *Sanguisorba stipulata*. Seeds are stored in the GRD warehouse.

#### **WC VEG06 – Hope Area Implementation**

**\$19,625 – SRD**

**Target: 0 acres (11 acres accomplished)**

A contract to implement mechanical treatment for vegetation improvement, hazardous fuel reduction, and wildlife habitat improvement was awarded for 148 acres along the Hope Highway. Treatments include low thinning, and removal of dead spruce. Merchantable timber will be decked in locations accessible to the public to produce free use firewood and some commercial products. Initial funding for this project was supplemented with \$15,434 from the Knowles Head NEPA project. This project was also funded by WFHF and NFWF.

### **NFVW – Noxious Weeds Program Accomplishments**

#### **WC NW01 – Invasive Plant Treatment**

**\$53,400 – (8K SO, 19K GRD, 20.4K CRD, 6K SRD)**

**Target: 50 acres (19.7 acres accomplished)**

Non-native plants were manually treated on 73.3 acres of the Forest (all three districts) in 2009 (target of 80 acres), including 19.7 acres under this project, 2.5 acres under the Weed Control at Spencer project, 50.6 acres under the Cooperative Weed Management on GRD project, and 0.5 acre funded by State and Private Forestry. Based on monitoring, average control effectiveness was estimated at about 45%. Accomplishments from this work have been entered into the Forest Service Activity Tracking System (FACTS).



*Youth Restoration Corps workers pulling bird vetch (Vicia cracca) in the Resurrection Creek restoration area.*

**WC NW02 – Weed Control at Spencer****\$23,500 – (2.4K SO, 21.1K GRD)****Target: 10 acres (2.5 acres accomplished)**

Large populations of non-native plants have been found in the Spencer area in past surveys. Spencer is also the place with many human activities including past and future minerals, Whistle Stop project, outfitter/guide, and Alaska Railroad. One of the biggest concerns is minerals extraction in weed-infested areas, which would spread weeds to wherever the extracted gravels were spread. Due to these concerns, this project was initiated to control invasive plants. Accomplishment for this year was completing the NEPA and manual invasive plant treatment across 2.5 acres. The NEPA process was extended due to appeals. The appeal deciding officer affirmed our decision with the requirement that we address new information regarding upcoming activities proposed by the Alaska Railroad Corporation.

**WC NW03 – Invasive Weeds Awareness Week Activities on CRD****\$3,500 – CRD****Target: 1 event (1 event and 1 article accomplished)**

In 2009, The Cordova Ranger District delivered two programs in both Cordova and Valdez. In August, an evening community invasive weeds program was delivered at the Crooked Creek Visitor's Center in Valdez followed by a weed pull. Additionally, an article was written and published in the Cordova Times explaining the current weed removal efforts, invasive plant background information and the problems they create in natural systems.

**WC NW04 – Kenai Invasive Plant Control EA – Phase 1****\$13,500 – (6.7K SO, 3K GRD, 3.8K SRD)****Target: initiate NEPA (accomplished)**

The Kenai Peninsula portion of the Chugach NF contains the greatest diversity and abundance of invasive plants on the Forest. Control efforts on the Kenai have focused on hand-pulling and use of hand tools. We have effectively eradicated or contained some infestations, but others have persisted or spread. This project begins an environmental assessment (EA) that considers chemical control methods on small scales for priority species and infestations where manual control has largely failed. As currently proposed, the maximum area of chemical treatment would be 10 acres per year, with no individual chemical application exceeding 1/10th of an acre. In addition to conducting information review, a draft public scoping letter has been prepared but has not been distributed pending results of the Spencer Integrated Weed Management environmental analysis. If a programmatic decision is pursued for the Kenai it would likely borrow heavily from the analyses and documents included in the Pacific Northwest Region Invasive Plant EIS (<http://www.fs.fed.us/r6/invasiveplant-eis/>).

## **WC NW07 – Cooperative Weed Management on GRD**

**\$10,000 – (1K SO, 9K GRD)**

**Target: 20 acres (50.6 acres accomplished)**

The Glacier Ranger District continued working on cooperative weed management with State DOT, Girdwood Parks and Recreation, Alyeska resort, University of Alaska Cooperative Extension Service, and local citizens. Accomplishments include: 1) Conducting seven community weed pulls during which over 70 volunteers participated. The Lions Club also pulled weeds while picking up trash along the bike path in Girdwood. The local DOT office accepted and disposed the dozens of bags from all the weed pulls. All volunteers were given a t-shirt featuring invasive plant drawings by Paul Clark. This t-shirt design was used by other invasive plant groups around the state. 2) Working with Girdwood Parks and Recreation to secure a \$20,000 grant from the USFWS Coastal Program, this was used to hire a SAGA crew for four weeks to pull weeds throughout the Girdwood area, specifically the Girdwood Airport. During the two weeks, the SAGA crew pulled over 200 bags of weeds from along Glacier Creek and various trailways. Species targeted include white sweetclover (*Melilotus alba*), reed canarygrass (*Phalaris arundinacea*), bird vetch (*Vicia cracca*), and narrowleaf hawksbeard (*Crepis tectorum*). 3) Maintaining a good working relationship with the Girdwood Parks and Recreation person. 4) Updating the Girdwood weed plan that identifies weed infestations, prioritizes infestations for treatment, and identifies responsibilities. 5) Attending weed management workshops and meetings. 6) Writing articles about invasive plants that appeared in the local newspaper, The Turnagain Times.

## **NFWF Wildlife – Program Accomplishments**

### **NFWF Wildlife – Administration**

#### **WC BASE01 – Program Administration – Supervisor’s Office**

**\$ 238,604**

Program Administration included budget tracking of in-year expenses, out-year planning for IPOW which included developing formats, criteria, developing and reviewing proposals, scheduling, coordination, advising, and assisting with District program development. Provide analyses of wildlife budget and make recommendations to the Forest Leadership Team for future planning and decision making purposes. Review and provide editorial comments on department generated reports, write annual accomplishment reports, and provide correspondence. Coordinate programmatic work and targets with Regional and National goals, programs, and managers. Also, includes coordinating the Wildlife Work Chunk meeting and processes and represented the Forest at IPOW negotiations and for the development of out-year priorities. Developed and partnerships with agencies and other entities and maintained productive relationships with team members. Funds also included TOS and Cost Pools associated with overhead.

**WC BASE01 – Program Administration – Glacier Ranger District**  
**\$ 40,100**

District wildlife program management funds directly supported current and out year budgeting and planning; accomplishment reporting, supervision and employee development; coordination with other agencies and partners; as well as participation in forest and regional teams. These funds supported our efforts for a number of inventory, education, and habitat management projects. Species of focus during 2009 included: kittlitz's murrelet, black oystercatchers, seaducks, landbirds, moose, mountain goats, wolverines, and bats.

**WC BASE01 – Program Administration – Cordova Ranger District**  
**\$71,175**

In 2009, wildlife staff administered the wildlife program at the Cordova Ranger District. This included program administration, planning, and coordination. Administration also included attendance of meetings, conferences, and training. Members of the wildlife crew presented reports at several meetings and conferences, including FLT, the Pacific Coast Joint Venture, Copper River International Migratory Bird Initiative, Pacific Flyway Council, Prince William Sound Science Center, Audubon Society, Local Fish and Game Advisory Committee, Subsistence Board, and Dusky Canada Goose Study Committee. Cordova Staff also participated in partnership development through working with the Native Village of Eyak, and assisted in Forest FLT.

**WC BASE01 – Program Administration – Seward Ranger District**  
**\$51,100**

Administrative costs for District Resources Staff associated with NFWF in the two District Offices. Includes current and out-year work planning and budgeting, reporting, responses to internal and external requests for information, travel, professional development training, leave (annual, sick, holidays) and special projects.

**NFWF Wildlife – Use**

**WC USE01 – Streamwatch Host**  
**\$30,375 – SRD**

**Target: coordination and education (accomplished)**

In recent years, the Russian River Anglers Trail had over 70,000 visitors and is one of the largest highway accessible sockeye fisheries in Alaska. The amount of coordination for managing these large numbers of visitors now requires a constant presence of uniformed Forest Service personal to assist in the stewardship of the stream and fishery and to educate a curious public about bears and human interactions. Partners in managing this area include the Streamwatch volunteers, FS's recreation program, ADF&G, USFWS, Kenai River Sport Fishing Association, and agency law enforcement.

The District hired two seasonal employees (NFWF Fish and NFWF Wildlife) to assist with The Russian/Kenai River Streamwatch Program. They educated anglers and visitors about safe fishing practices, safe camping, safe bear viewing opportunities and riparian protection measures. The Streamwatch hosts also educate the public about invasive plant

and fish species. This project also funded the Russian River Interagency Management Coordinator for 35 days.

## **WC USE02 – "Vantastic" Wildlife Environmental Education**

**\$25,070 – SRD**

**Target: provide environmental education (accomplished)**

The Vantastic program is a mobile environmental education program that travels to heavily visited sites and community events around the Chugach National Forest. The program is cooperatively funded by both the Recreation and Wildlife programs on the Seward Ranger District and jointly funds two seasonal employees and one or more volunteers.

While each Vantastic program or display is adapted to the specific location or event where it occurs, it contains binoculars and spotting scopes for wildlife viewing, wildlife specimens (skulls, hides, antlers, horns), plant and animal identification books, and poster presentations that provide interpretation opportunities for the entire forest. This year's funding allowed Vantastic to develop a second program (Vantastic 2) with new materials and themes that focused on wildlife viewing and identification along the Kenai Peninsula Wildlife Viewing Trail. The program emphasized how, when, and where to view wildlife, and how to use various tools such as specimens, field guides and sound files to identify wildlife.



Vantastic interpreters traveled in the Vantastic van to various locations across the Forest. Starting in 2009, Vantastic is now a Forest-wide resource and made appearances at the Girdwood Kid's Fishing Day, Moose Pass Summer Solstice, Valdez Gold Rush Days, Cordova's Salmon Jam Festival, Hope Wagon Wheel Days, Seward Fourth of July Festival, and the Anchorage Spring Fling with the Birds (Potter Marsh).

While many of the Vantastic displays

occurred at Tern Lake, displays were also set up at Exit Glacier Road, Moose Creek, Ptarmigan Creek, and the Grayling and Meridian Lakes Trailhead to provide opportunities for visitors to the Forest to receive environmental interpretation and education.

In addition to the mobile displays provided, Vantastic also presented four different campground programs on seven different evenings at the larger Forest Service campgrounds. Approximately 200 campers attended these evening campground programs. Overall, Vantastic reached more than 4,500 visitors through their displays, events, and programs in 2009.

This project also funded a portion of the Seward Wildlife Conservation and Education program. Other environmental education presentations and programs developed to benefit the local communities included:

- Environmental Awareness Days (NFWF): We provided 2-3 days of educational wildlife presentations to children from schools in four local communities. We taught approximately 113 students, 4 parents and 6 teachers (133 contacts, 4 hours each). We developed a new interactive program which we adjusted to the grade level and interests of the kids called “Junior Biologist”. Students were able to do an actual wildlife survey and discover and identify wildlife using sight (visual id of live animals and hidden puppets), sign (replica tracks, eggs, scat, as well as real nests, feathers, bones, skulls, antlers), and sound (hidden iPod and speaker playing a podcast of various boreal forest bird calls mixed to sound like a real forest). Students filled out a wildlife survey form and identified what they found using sound files (book of bird calls that played when a wand was passed over a barcode next to a picture) and field guides. This program produced 1 product, 16 presentations, and 133 contacts.
- Migratory Bird Day (NFWF) - We developed two new Migratory Bird Day programs for Potters Marsh. These programs highlighted migration pathways, natural history of the most common migratory species, with photos and sound files (podcast) for the common species to help birders identify birds by sound. We also updated the Binocular Detective program, showing adults and kid how to focus and use binoculars and find and identify local bird species. We presented these programs over two days, the first day presenting to 200 children, the second day to about 200 adults and children. This program provided a total of 2 programs, 4 presentations, and 400 contacts.
- Bird Academy (NFWF): We presented 2 days of bird educational programs at the Alaska Sea Life Center in cooperation with local schools on bird mist netting and banding, and on Birds and Cats. The two different presentations were adjusted to the grade level and interests of the kids. The classes include 56-84 students as well as 5 parents and 2 teachers. This program provided a total of 2 products, 10 presentations, and 91 contacts.
- “Adopt an Owl Box” Program (NFWF): We constructed, placed and monitored owl occupancy in owl nest boxes with private landowners on their properties in Seward, Moose Pass, Cooper Landing and Hope. Forty five owl boxes are in the program. We submit the monitoring data to Cornell University, as part of their citizen science “Birdhouse Network” program. We also submitted an article for

the Sourdough Notes newsletter on the program and inspired other biologists on other forests to start programs of their own. In total, we developed 2 products, did one presentation on the program per family (45) and made 90+ contacts for the Adopt and Owl box program, and unlimited contacts for the article.

- Kenai Critters Newsletter: We developed a web based newsletter on the wildlife program for the season, interesting facts about wildlife, and results of the “Adopt a Box Program” (1 product, potential contacts unlimited).

### **WC USE03 – Shorebird Festival**

**\$15,100 – CRD**

**Target: 10 events (accomplished)**

The Copper River Delta Shorebird Festival occurred from May 8-10, 2009. During the festival, bus tours traveled to viewing areas in Hartney Bay and to the wetlands of Alaganik slough. A variety of educational talks were conducted by Forest Service employees on topics like beginning birding to Copper River Delta Ecology. Other events included children's activities, birding contests, and a Birder's dinner. In 2009, over 500 people attended the Copper River Delta Shorebird Festival. The key note speaker was USFS International Programs representative Jim Chu. This year's festival included native Alaska cultural presentations, two art shows, bird viewing field trips, and children and adult workshops.

### **WC USE04 – Cordova Airport Display**

**\$5,000 – CRD**

**Target: 1 report (accomplished)**

The Cordova Airport display was first designed and installed in the late 1980s. This display is outdated and needs to be repaired. Most visitors to Cordova arrive via the airport in Cordova, thus this is their first impression of Cordova and the US Forest Service. This project took the first planning steps for updating the Airport Display. District staff determined project goals and preliminary design ideas. Recreation Solutions, a USFS Enterprise Team, was also contracted to assist the District with developing a plan for accomplishing this project.

### **WC USE05 – Alutiiq Subsistence in Prince William Sound**

**\$34353 – GRD**

**Target: 1 event (accomplished)**

At the outset this project aimed to be a stand-alone website engaging youth with subsistence harvest practices of Alutiiq people of Prince William Sound. As a result of personnel changes (loss of key environmental educator on the district trained in web development) and an inability of partners to commit the necessary resources and personnel to assist with development, it was reshaped to be part of a larger Children's Forest event. Funding was used to expand the 2009 Youth Media Expedition to include youth from 3 subsistence harvesting communities of Prince William Sound and involved student exploration of the rural, subsistence community of Chenega Bay. Participants in this trip read *We Are the Land We are the Sea* published by the Chenega Corporation as part of their orientation to the region at the outset of the trip. A Guest speaker from the

village joined the youth media trip and as part of her contribution spoke of subsistence harvest practices in the Sound. Additionally, a Forest Service Archaeologist joined the trip explained Alutiiq historical and contemporary use of the Sound. Students on this trip created a series video documentaries of their experiences that have been used to outreach to other youth about the Prince William Sound region, it's people and resources. This project contributed substantial footage, partners and participants to the larger Chugach Children's Forest initiative and as a result youth interpretation of subsistence practices and traditional ecological knowledge of the Alutiiq people will be a continued component of that larger outreach and education project.

#### **WC USE06 – Mobile GIS Mapping Units**

**\$12,000 (funded through final NFWF funds allocation) – GRD**

##### **Target – 1 product (4 units received)**

To improve efficiency, 4 mobile GIS mapping units were purchased. Adapx has come up with a solution that merges pen and paper data with a quick and easy digital solution. The Capturx pen and software, in conjunction with ArcGIS, allows a user to create a pre geo-registered map that the pen can actually write on, as well as collect digital coordinates. When returning from the field the user simply has to plug in the pen to the computer and an ArcGIS ready file is available for use. With minimal preplanning, using a capturx pen will allow us to collect field data when GPS systems are not available or have degraded accuracy.

#### **WC USE07 – Bear Management Plan**

**\$20,000 – SRD**

##### **Target: 1 plan (in preparation)**

The Bear Management Plan was initiated in 2009 by assisting in the development of nuisance bear management protocols and standard operating procedures for our Law Enforcement Officers. Further, a permit was obtained from the Alaska Department of Fish and Game to authorize our Officers to initiate lethal removal of bears when a range of bear behaviors are observed. The Forest's Deputy District Ranger will be leading an effort in 2010 to further develop our Bear Management Plan.

### **NFWF Wildlife – Stewardship**

#### **WC STW01 – Dusky Canada Goose Artificial Nest Island Maintenance**

**\$83,055 – CRD**

##### **Target: 350 acres (accomplished)**

The dusky Canada goose breeds only on the Copper River Delta. Habitat and predator composition changes related to the 1964 earthquake have caused a dramatic decline in dusky populations. These birds winter in Oregon with similar subspecies, and efforts to manage these other subspecies has been hindered by the declining dusky population. To increase nest success of dusky Canada geese, we have installed artificial nest islands that has proven to significantly increase nesting success. In 2009, we monitored all 330 islands for use and nest success. In addition, we re-constructed 81 islands that were damaged by wildlife or weather. Nest success was 87% and continues to be about twice as high as that found at natural sites. The islands hatched 600 goslings.

**WC STW02 – Cooper Creek Restoration****\$104,996 – SRD****Target: 75 acres (NEPA support accomplished)**

This project was intended to award a contract to perform hand and mechanical treatments to improve forest vegetation, improve wildlife habitat, and reduce hazardous fuels. The entire project area is 400 acres; the remaining acres are being funded by NFWF (75 acres) and WFHF (250 acres). The target accomplishment for this project was not met due to roadless ruling pending Washington Office clearance. Funding for contract award from this project was redistributed to an agreement with Recreation Solutions to provide NEPA support to the Seward Ranger District.

**WC STW03 – Bean Creek North Restoration NEPA****\$25,021 – SRD****Target: 1 NEPA decision (in preparation)**

The Bean Creek North Restoration NEPA project was intended to prepare a NEPA document and decision for vegetation improvement, wildlife habitat improvement, and hazardous fuel reduction. Due to changing priorities, funding for this project was used to fund the Avalanche Acres HFRA project. The environmental analysis for the Avalanche Acres project is approaching completion and a signed decision document is expected in early fiscal year 2010. Additional contributions to this project were made by WFHF and NFWF.

**WC STW04 – Hope Area Implementation****\$22,000 – SRD****Target: environmental analysis leading to decision (accomplished)**

A contract to implement mechanical treatment for vegetation improvement, hazardous fuel reduction, and wildlife habitat improvement was awarded for 147 acres along the Hope Highway. Treatments include low thinning, and removal of dead spruce. Merchantable timber will be decked in locations accessible to the public to produce free use firewood and some commercial products. NFWF funds were utilized for completing environmental analysis and contract preparation. This project was also funded by WFHF and NFWF.

**WC STW05 – Moose Pass 7A****\$10,500 – SRD****Target: contract administration (accomplished)**

In 2008, we awarded the Moose Pass 7A contract to enhance wildlife habitat, improve vegetation, and reduce hazardous fuels along the Iditarod/Johnson Pass Trail near Trail River. Implementation included cutting, piling, and burning of dead spruce and patch cuts and hinge cutting of willow to enhance moose browse. The entire project area is 356 acres and the project was awarded cooperatively with NFWF, NFWF, and WFHF funds. The 2009 funding provided personnel to administer the contract and inspect the contractors work. This project was completed in 2009.

## **NFWF Wildlife – Information**

### **WC INFO01 – Alaska Landbird Monitoring**

**\$14,995 – CRD, \$5,035 – GRD, \$4,127 – SRD**

**Target: report (accomplished)**

The Alaska Landbird Monitoring System (ALMS) has been designed to monitor long-term trends in breeding populations of landbirds (and other species) within all ecoregions of Alaska. This system relies on surveying the exact same points every two years to monitor changes in bird populations over time. Throughout the Alaska, random plots were selected on public lands and three random plots were located on the Cordova Ranger District. In 2009, CRD surveyed the Kayak Island plot, GRD sampled the Beetles Bay plot, and SRD surveyed the East Creek plot. Data from these surveys were compiled and a completed report was submitted to USGS.

### **WC INFO02 – Breeding Bird Survey**

**\$3,371 – CRD, \$1,200 – SRD**

**Target: report (accomplished)**

Breeding Bird Surveys are part of a National program to monitor long-term trends in breeding landbird populations. This system relies on annual surveys to monitor changes in bird populations over time. During 2009, the CRD monitored 2 BBS routes that have been in this program since 1996, SRD also surveyed one BBS route. Data was sent to the USFWS for entry into the National Database for trend analysis.

### **WC INFO03 – Wolverine Habitat/Movement Analysis**

**\$50,971 – SO, GRD, SRD**

**Target: 1 report (accomplished)**

This project collected data that targeted the monitoring question: *What is the population trend of wolverines on the Kenai Peninsula?* The Forest Service collaborated with ADF&G to accomplish this work. This work will also complimented and provided data necessary for interpreting the results from an ongoing project: *To determine the effects of management (heliskiing) as predicted (no significant impact) for wolverines.* The goal of this project is to compare wolverine abundance in the Kenai Mountains to density estimates within heli-skiing areas. This information should provide CNF with better tools to balance heli-skiing activities with wildlife habitat needs and ADF&G with improved ability to assess wolverine populations. Overall, the work should also improve our capacity to manage and monitor the viability of a carnivore that is typically rare and potentially sensitive to winter disturbance. This is a multi-year project and data will be acquired using a SUPE. The method is based on earlier techniques relying on transect intercept probability sampling (TIPS) (Becker 1991). The sampling of animal tracks in snow (SUPE, Becker et al. 1998) has been found the most effective technique for estimating wolverine populations and distribution. Conducting a scientifically designed aerial survey (SUPE) for wolverines over several years on the Kenai Peninsula can also be an effective technique for evaluating the effects of commercial helicopter skiing on wolverine habitat use. In each survey area, we establish a network of quadrats, systematically spaced rectangles at approximately 25 km<sup>2</sup> in size. Quadrats serve as sample units (SU), and each receives an alphanumeric code for identification. See

Golden et al. in press and Becker et al. 1998, and Becker et al. 2004 for further details on the SUPE method. One aerial survey was completed in winter of 2009.

#### **WC INFO04 – Kittlitz’s Murrelet Project Development**

**\$5,000 – GRD**

##### **Target: coordination and participation (accomplished)**

The purpose of this project was to develop an interagency collaboration for identifying information needs and studies that would benefit the Kittlitz’s Murrelet and their management by respective agencies. The Kittlitz’s Murrelet (KIMU) is a diving seabird of relatively low abundance found only in Alaska and eastern Siberia. The Prince William Sound supports 15-20% of the known Alaskan population (USFWS 2003). Kittlitz’s Murrelet is also a candidate T& E species and will very likely be listed in the near term which could significantly complicate CNF management activities in Prince William Sound (PWS) in the near term. PWS marine bird surveys indicated an 84% decline in KIMU from approximately 6400 birds in 1989 to 1000 birds in 2000 (Kuletz et al. 2003).

This species is generally associated with tidewater glaciers and at one time was distributed throughout PWS, but its distribution in the Sound is now primarily limited to the few areas of active tidewater glaciers within the WSLA study area. These remaining population centers are in: College Fiord, Harriman Fiord and Barry Arm, Blackstone Bay, Port Bainbridge, and Columbia Bay (Kuletz et al 2003). These areas also have the highest level of permitted and private recreation in PWS. In addition, Kittlitz’s Murrelet nest in the upland areas around these Fjords that are predominantly managed by the USFS. These funds resulted in about a 500k + partnership grant awarded to the Chugach NF, U. S. Fish and Wildlife Service, US Geological Survey, and University of Massachusetts, Amherst.

#### **WC INFO05 – Wildlife Highway Crossings**

**\$8,000 - SO & SRD**

##### **Target: coordination and participation (accomplished)**

Several projects have been proposed by Alaska Dept. of Highways that involves Forest Service land. These projects have the potential to greatly affect wildlife populations through loss of habitat, bisecting habitat corridor connectivity, and increasing the likelihood of wildlife-vehicle collisions. Agencies concerned about the potential impacts of these projects have created a working group with a goal of effectively mitigating these impacts to wildlife. One of the goals of the interagency working group is to develop recommendations for constructing structures (i.e. large box culverts) or highway design (i.e. elevated highways) that would provide safe crossings for wildlife. The group assisted with determining the location of wildlife crossings and identifying habitat connectivity for conservation purposes. The results of these efforts ultimately will be implemented into the proposed highway design and the construction phase of these projects.

**WC INFO06 – CRIMBI/Key Coast Wetland Administration and Development  
\$8,000 – CRD**

**Target: 2 reports (accomplished)**

The Cordova Ranger District currently holds positions on the managing board of the Copper River International Migratory Bird Initiative board, a member of the Alaska Chapter of the Pacific Coast Joint Venture, and the steering committee for the Alaska Shorebird Group. These partnership have generated hundreds of thousands of dollars for Region 10 but require extensive time and travel. During 2009 the Key Coastal Wetland Five-year Plan, Briefing Paper and Strategic Plan were finalized. Funding was also used to attend 3 meetings.

**WC INFO07 – Kenai Mountain Goat Habitat Model Validation  
\$19,915 – GRD**

**Target: 1 report (pending)**

The Record of Decision for the Commercially Guided Helicopter Skiing on the Kenai Peninsula, Appendix B identified a monitoring and implementation plan that included expanding our understanding of habitat use by mountain goats.

Using information theoretic modeling procedures we conducted a rigorous statistical validation of an existing mountain habitat model created from flight survey data collected in partnership with ADF&G between the years 2000-2005. Though statistically valid, the existing model has a number of recognized weaknesses based on the fact that it was derived only from flight survey data and thus may contain predictions biased by goat detectability issues. The current model is the basis for a number of management actions relative to commercially guided recreation activities on the Kenai which includes mitigations with heli-ski operators.

To increase the robustness of the dataset, 12 mountain goats were collared on the Kenai Peninsula in cooperation with ADF&G and an additional 4 were captured in 2007. All were fitted with GPS collars capable of storing multiple daily positions for 2 years. The data from these collars were retrieved and these datasets were used to develop an additional mountain goat habitat model for the Kenai Peninsula. A comparison between the early model based on sightings during aerial surveys and the GPS data generated model is still pending.

**WC INFO08 – Aleutian Tern Inventory  
\$19,105 – CRD**

**Target: 1 report (accomplished)**

The Aleutian tern is a colonial nesting seabird of coastal Alaska that is currently going through severe declines. In 2009, the Cordova Ranger District and Yakutat Ranger District conducted inventories of previously documented Aleutian tern colonies on the Copper River Delta. A total of 10 historic colonies and an additional 3 new sites were inventoried. Population and nest data was collected at each of these sites. Data from this study was also used in a larger analysis of Aleutian terns in the Alaska region.

**WC INFO09 – Pond Enhancement****\$25,906 – CRD****Target: 1 report (pending)**

Prior to implementing habitat enhancement efforts, managers need to understand how the Copper River Delta landscape will change over time due to the periodic uplifts. In 2009, we initiated work to determine long term pond productivity through analyzing stable isotopes from animals and vegetation from the area. Samples were sent to Notre Dame University for analysis in 2009 with an expected report in 2010. A majority of the funds for this project were transferred to USGS under contract for the completion of this study.

**WC INFO10 – Moose Habitat Model****\$49,875 – SRD****Target: 1 report (accomplished)**

The goal of this project was to quantify the amount and availability of moose browse across the CNF. The work entails field sampling, forage analyses, diet analyses and a linear programming model to quantify the number of moose days from a vegetated area. The Forest Service has been focusing its contribution to this program by leading up field sampling and data collection to map and estimate forage availability. In turn, ADF&G and the University of Alaska have analyzed these samples (dietary analyses and browse nutrition). In addition, funding was provided to UAA for developing vegetation maps of the Placer Valley from aerial photos. The focus of the FY08 was to gain more data on those variables with the greatest variance, by increasing the collection of moose browse data. A habitat model has been developed that creates a synthesis of these data sets and provides a quantitative assessment of the habitat on a landscape scale.

**WC INFO11 – Moose Habitat Assessment for Placer Valley****\$17,784 – GRD****Target: 1 report (accomplished)**

This was an administrative study that benefited greatly from three CNF projects completed in 2008 including a spatially explicit biomass predictor model for winter browse availability for the Kenai created in partnership with the University of Alaska Anchorage (Dr. Don Spalinger); an evaluation of habitat use by collared moose relative to snowmachine trails in Placer Valley and Juneau Creek in partnership with ADF&G; and evaluation of the intensity of winter recreation use predicted for the Kenai. We evaluated the findings from these past administrative studies and defined the degree of overlap with snowmachine activity for those patches of the highest quality of winter forage and evaluated the potential management options that could be taken to mitigate impacts from this activity. Furthermore, we also identified areas of lesser quality habitat not associated with snowmachine activity which could be strategically improved to increase forage for moose. The possible enhancement sites were identified and this information will be used for future strategic planning.

### **WC INFO12 – Wood Bison Pasture Monitoring Program**

**\$4,011 – GRD**

**Target: monitoring (accomplished)**

In May of 2007, the Chugach National Forest Supervisor completed the environmental assessment that supported the Decision Notice (signed May 17, 2007) that allowed the use of 27 acres of CNF lands for a seasonal pasture to support a wood bison captive breeding program. An MOU between the Alaska Dept. of Fish and Game, Chugach National Forest, USDA Natural Resource Conservation Service (NRCS), and the Alaska Wildlife Conservation Center was signed shortly thereafter, demonstrating the cooperation and commitment of all partners for the restoration of bison on their native lands. Additionally, a permit was issued by the Forest Service to AK Fish and Game for the use of the land for 10 years, with the option to renew for an additional 5 years. The EA calls for the monitoring of the 27 acres of permitted land to be conducted in conjunction with the permit stipulations and requirements. Under the direction of the local NRCS District Conservationist (Anchorage NRCS Field Office), the pastures were monitored during the season of use to ensure that the soil quality was not being compromised, and thereby limiting re-growth of native vegetation. Monitoring found pasture conditions to be satisfactory during the 2009 season of use.

### **WC INFO13 – Rusty Blackbird Foraging and Habitat Distribution**

**\$33,805 – CRD**

**Target: 1 report (accomplished)**

Rusty Blackbirds are one of the most rapidly declining bird species in the U.S. and are being considered for nomination as a candidate species under ESA. This year's project is the first step in a two year project to investigate the productivity and habitat of this species on the Copper River Delta. In 2009, nest searches were conducted on the Delta and 19 nests were located. Additionally, ponds associated with rusty foraging were sampled for invertebrate abundance. These data will then be pooled with statewide rusty productivity data to 1) determine rusty productivity statewide and 2) determine differences between the CRD and the rest of the state and 3) determine ties between pond and rusty productivity.

### **WC INFO14 – Prince William Sound Sensitive Resource Risk Inventory**

**\$38,000 – GRD**

**Target: 1 report (accomplished)**

Spatial and tabular data were collected and compile from a variety of sources for wildlife in Prince William Sound (PWS). Sources included Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, and NOAA (Shorezone). Tabular data was joined to spatial data and projected to match Chugach Forest spatial data. Some data were analyzed using spatial tools such as line density and point density to determine the top 25% areas of use by species in PWS. Data has been placed in a Personal Geo-database and metadata were completed as well. A webpage is also in the process of being developed as part of this project. Data and other spatial data for PWS will be stored and made available to the public to download via the webpage.

## **NFWF Fisheries – Program Accomplishments**

### **NFWF Fisheries – Administration**

#### **WC BASE01 – Fisheries Technical Services**

**\$156,968 – SO**

**\$97,197 – GRD**

**\$130,131- CRD**

**\$81,215 - SRD**

This work chunk provided administrative support to the Chugach National Forest Fisheries program. Administration included out year budgeting, planning, coordinating with partners and giving presentations, participation on Forest and Regional efforts, annual and sick leave and the cost of continuing education for biologists and travel.

### **NFWF Fisheries – Use**

#### **WC USE01 – Russian River Streamwatch**

**\$ 36,290 – SRD**

##### **Target: 6 products (accomplished)**

The Russian River Anglers Trail sees over 70,000 visitors annually and is one of the largest highway accessible sockeye fisheries in Alaska. The amount of coordination for managing these large numbers of visitors now requires a constant presence of uniformed Forest Service personal to assist in the stewardship of the stream and fishery and to educate a curious public about fish bear and human interactions. Partners in managing this area include the Streamwatch volunteers, our recreation program, ADF&G, USFWS, Kenai River Sport Fishing Association, and law enforcement.

The District hired two seasonal employees (NFWF Fish and NFWF Wildlife) to assist with The Russian/Kenai River Streamwatch Program. They educated anglers and visitors about safe fishing practices, safe camping, safe bear viewing opportunities and riparian protection measures. The Streamwatch hosts also educate the public about invasive plant and fish species. This project also funded the Russian River Interagency Management Coordinator for 35 days.

#### **WC USE02 – I & E Public Events**

**\$12,123 – CRD**

##### **Target: 3 events (accomplished)**

The crew completed a series of presentations and events to accomplish this work. Partnering with the Prince William Sound Science Center crew met with the kids attending science camp and talked in general about fishes of the Copper River Delta, fish identification, and the whitefish study occurring at McKinley Lake. The crew also hosted a Children's Forest event called Kids' Hike & Fish. This popular event has become an annual experience for both kids and their parents. The crew hikes the attendees from the Pipeline Lakes Trail head to Pipeline Lake 5 and they learn about fish and their habitat along the way. Once at the lake, kids fish and when they are successful they learn about

fish anatomy (through dissection), and then the crew cooks the catch for them. Other presentations included proper catch and release techniques at the Copper River Watershed Projects' Community Day event, and salmon life cycles at the Discovery Room.

**WC USE03 – Information and Education School and Visitor Center Presentations  
\$15,186 – GRD**

**Target: 5 products (7 products accomplished)**

- *Alaska Marine Highway System (AMHS) Onboard Interpretive Program:* Passengers aboard the *M/V Aurora* learn about the important role fisheries plays in the ecosystem through the following topics: the history of fisheries in Alaska, hatcheries in Prince William Sound, the commercial fishing industry, subsistence, the Exxon Valdez Oil Spill, and the social and economic benefits of monitoring this sustainable resource. **(8358 contacts in 92 PWS crossings)**
- *Interpretive Talk, “Salmon of Alaska”:* Presentations took place at the Williwaw Fish Viewing Platform in Portage Valley when the salmon are spawning, and aboard the AMHS vessel *M/V Aurora*. Theme focused on the identification of the five salmon species found locally, their life cycles, and the benefits of fisheries on the Chugach NF. **(Programs at WFVP: 7 with 873 contacts; Programs aboard M/V Aurora: 37 with 1278 contacts)**
- *Interpretive Talk, “Alaska Native Subsistence”:* Presentations took place at the Begich, Boggs Visitor Center, 6/22 - 8/7/2009. Program was offered through a partnership with the First Alaskans Institute and was developed by an Alaska Native intern who has Inupiaq heritage. Theme addressed the different ways that people from all regions of Alaska have survived with this lifestyle and focused more in depth on the traditions of the Inupiaq people. Program also deconstructed myths that surround subsistence in Alaska and connected the public to traditions that most people, including Alaskans, know very little about. **(Programs at BBVC: 30 with 289 contacts)**
- *Major Marine Tours Onboard Interpretive Program:* Passengers aboard *The Emerald Sea* learn about the important role fisheries plays in the ecosystem through the following topics: the history of fisheries in Alaska, hatcheries in Prince William Sound, the commercial fishing industry, the Exxon Valdez Oil Spill, and the social and economic benefits of monitoring this sustainable resource. **(1896 contacts - 1/6<sup>th</sup> of total Direct Contacts)**
- *Phillips 26 Glacier Cruise Onboard Interpretive Program:* Passengers aboard *The Klondike Express* learn about the important role fisheries plays in the ecosystem through the following topics: the history of fisheries in Alaska, hatcheries in Prince William Sound, the commercial fishing industry, the Exxon Valdez Oil Spill, and the social and economic benefits of monitoring this sustainable resource. **(4956 contacts - 1/6<sup>th</sup> of total Direct Contacts)**

- *BBVC Field Trips:* Students explore the interpretive displays in the BBVC, work on age-appropriate scavenger hunts, watch the film “Voices from the Ice” and take a short hike, all of which include components relating to the importance of fisheries. Field trips are two hours in length on average. **(Field trips to BBVC: 35, with 812 kids and 45 adults)**
- *Career Day Event:* District fisheries biologist attended classroom sessions at the King Career Development Center to provide presentations on the fisheries program, recommendations for continuing education, and employment opportunities on the Forest. **(Two classes – 50 students)**

#### **WC USE04 – Fish Academy and Stream Survey**

**\$ 15,247 – SRD**

**Target: 4 events (accomplished)**

This program included a salmon incubation program and was implemented in partnership with the Alaska Department of Fish and Game. The program included providing oversight to the maintenance of three fish tanks with salmon eggs in different stages of development. The maintenance was combined with in classroom discussions of the salmon life cycle.

Another portion of this program included hands-on fish anatomy programs with local schools. We conducted five separate salmon dissections in Seward Elementary school with two 5<sup>th</sup> grade classrooms (47 students), Seward Middle school with two 7<sup>th</sup> grade classes (40 students), and Cooper Landing (K-8) and Hope School (K-12) (20 students).



This program also included two separate field day studies with students from the Kenai Peninsula attending the ADF&G egg takes in October. Students harvest eggs and milt from spawning salmon fertilize the eggs on site to take back to the classroom. This year we had 276 students from Seward Middle, Seward Elementary, Cooper Landing, Hope, Cook Inlet Academy, K-Beach and Sterling schools. The Forest Service portion of the presentation is to collect juvenile salmonids from the stream, display in a tank on site and discuss the various salmon types and teach kids how to identify the different species. Then in May the students return to Bear Creek to release the Coho fry they raised in the classroom.

While the students are present they are actively engaged with identifying different aspects of the stream such as temperature, color, clarity, velocity, bank conditions, and also identifying macro-invertebrates present in the stream.

**WC USE05 – Chugach National Forest Salmon Viewing Guide****\$13,388 – GRD****Target: 1 product (accomplished)**

A salmon viewing guide describing opportunities for visitors to view wild salmon in the freshwater streams and lakes of the Chugach National Forest has been completed and 16,000 brochures have been printed and distributed. The guide covers all three Districts and highlights specific areas where visitors have a good opportunity to view spawning or migrating salmon.

Information in the brochure includes directions, descriptions, species, and best viewing times for each of 15 selected sites on the Forest. Additionally, many professional photographs and fish illustrations by Joe Tomelleri were used in the brochure.

**WC USE06 – Salmon Festival****\$5,366 – CRD****Target: 1 event (accomplished)**

The district participated in the very popular Copper River Wild Salmon Festival. District Staff presented at an informational Atlantic salmon booth, target casting, Salmon Trivia game, and Ruby the Red Salmon made an appearance.

**WC USE07 – Glacier District Kids Fishing Day****\$7,774 – GRD****Target: 1 event and 5 products (accomplished)**

We had a very successful and smooth running Kid's Fishing Day. One hundred and forty-one children registered, while a number of others did not, pushing our attendance estimate to 155 children, plus guardians. For the third year in a row we stocked Rainbow trout in above ground tanks in response to the discovery of the gene for Whirling disease within the DNA of trout at the local hatchery. Despite fewer donations this year, we were still able to provide each child with a "goody" bag containing a newly designed Kid's Fishing Day sticker in addition to other educational items. A steady stream of children made fish prints and the fly tying station was a huge success because of our hardworking volunteers. The Vantastic crew set up a beautiful hands-on Natural History display allowing the children to view and handle different skulls and hides as well as "glass" the surrounding hillsides for wildlife. Each child had an opportunity to win a door prize from the generous donations of the following business: B&J Commercial, Mountain View Sports, and Wal-Mart. A special thanks goes out to the Girdwood Volunteer Fire Department for loaning their water tank and to our two volunteers who tirelessly manned the fly tying station.

**WC USE07 – Kids Fishing Day****\$4,292 – CRD****Target: 1 event and 6 products (accomplished)**

Our ever-popular Kids' Fishing Day was held at Hollis Henricks Park in Cordova. Approximately 85 kids attended this year. Activities included fish painting & printing, stream ecology, casting accuracy, lure making, and eulachon oil rendering. Ruby the Red

Salmon visited with the kids as they travelled booth to booth. Our partners at the Native Village of Eyak creatively promoted recycling by having the kids use recycled plastic bottle, cardboard and paint to create “fish”. Community businesses contributed over \$250 in food and raffle prizes to the event.

#### **WC USE07 – Kids Fishing Day**

**\$ 5,794 – SRD**

##### **Target: 1 event (accomplished)**

This event provided a safe and fun opportunity for children to learn about fish and fishing techniques as well as broaden their appreciation for the natural resources and environment within their National Forest. The poles were available at a bait station as well as hooks, sinkers, bobbers and bait for those who needed them. We held a casting contest and had an arts and crafts section where the public could make colorful macaroni rainbow trout. A boat was available as well as personal floatation devices (PFD) for children and adults for boat rides and a safety lesson concerning the use of PFDs. Special thanks to TelAlaska Inc. who provided hotdogs, hamburgers, beverages, snacks for the picnic lunch, and participation prizes. We had great turnout of 54 kids and 30 adults participating in all the day’s activities, including catching fish.



#### **WC USE08 – Key Coastal Wetland Program Development**

**\$10,800 – CRD**

##### **Target: 1 report (1 accomplished)**

The focus of the project was to develop the key coastal wetland program to achieve the KCW Regional Strategic Business Plan objective. The Cordova Ranger District worked with Wrangell and Yakutat Ranger Districts to coordinate, plan and write a 5 year plan; this plan includes regional projects and in the appendices includes projects at the individual units that pertain to key coastal wetlands. Developing partnerships to help the FS accomplish its KCW goals continues to be a priority as well. A briefing paper was written to apprise our line officers of the achievements to date of this inter-Forest working group.

#### **WC USE09 – Seward Fish Invasives**

**\$5,701 – SRD**

##### **Target – 1 product (accomplished)**

An ADF&G sign is utilized to notify and educate the public of the negative effect northern pike have on salmon and trout fisheries. Sign frames were constructed from wood and stained for weather-proofing. The following lakes or trails had signs posted at them last year and were checked for damage and replaced if needed, Ptarmigan Lake trail, Vagt Lake trail, Summit Lake, Jerome Lake, Grayling Lake, Grouse Creek road, Primrose trail head, Lost Lake Trail head, Cooper Lake, Russian Lake (upper), Rainbow

Lake, Russian Lake (lower), Resurrection Pass (north and South). An aquatic invasive species brochure to be completed with this project is being produced.

**WC USE10 – Invasive Awareness Panels**

**\$8,689 – GRD**

**Target: 2 products (accomplished)**

Two beautiful interpretive panels focusing on impacts to fish and fish habitat associated with invasive plants, mussels, and snails were designed and have been duplicated on all-weather exterior grade high pressure laminate panels at Izone. The layout and art work of these panels are consistent with other interpretive panels throughout Portage Valley.

These panels will be framed with rough-cut cedar and mounted on peeled spruce poles providing Forest visitors a visually pleasing and informative interpretive opportunity.

**WC USE11 – Invasive Species Education**

**\$11,290 – CRD**

**Target: 1 product (accomplished)**

A brochure was developed high-lighting aquatic invasives that either have the potential to arrive or are already present in Cordova.

**WC USE12 – Fish Carcass Disposal Sign**

**\$9,988 – CRD**

**Target: 1 product (accomplished)**

Due to increased sport fishing, many fish carcasses are being left on stream banks. We wanted to address this issue, so a sign was developed to post at popular fishing areas to get three messages across to the public: reduce the amount of carcasses disposed of on the river banks, the recycling of nutrients by disposing of carcasses in the water, and avoid attracting bears to the area. The sign successfully displays these messages in full color on Polydura, a flexible plastic sign material.

**WC USE13 – Cordova Airport Interpretive Display**

**\$22,575 – CRD**

**Target: 14 products (7 products accomplished)**

This is an internal partnership project between Fisheries, Wildlife and Recreation. A team met several times to develop ideas and themes along with assistance from Alaska Airlines. A contract was developed and awarded for a professional layout and design; construction is planned for FY10. Photographs and a 3-D wall map were obtained for use in the final display. Work will be completed in FY10.

**WC USE14 – Weekly Fish News**

**\$9,642 – CRD**

**Target: 10 products (10 products accomplished)**

The number of anglers visiting Cordova to sport fish for coho salmon is increasing every year. These folks inundate the FS office looking for information about where to go fishing and what type of gear to use. A creative and enterprising fisheries biologist came up with the idea to do a weekly “fishing news” bulletin that the front desk could use to help these folks. Weekly during the coho season, a single-page double sided flyer is

produced that provides visitors with information on where to fish, water conditions, what to use, catch-and-release tips and safety information (bear sightings, boating safety, quick sand).

#### **WC USE15 – Ice Fishing Derby**

**\$4,998 – SRD**

**Target: 1 event (accomplished)**

The first annual ice fishing derby for the district was a hit. We partnered with TelAlaska once again and they provided hotdogs, chips, pop, hot cider, cocoa, and water to all participants. We went out to Summit Lake and drilled 90 holes in the lake at various depths, set up rods and asked the kids to claim a hole. The kids were provided with an in-school safety talk about dressing properly for the winter sport and other general safety concerns prior to the field day. We had 70 students and 10 adults attending from the area schools, and even a few kids with parents stopping by to learn the art of ice fishing. At the end of the day all teachers were asking when the next Ice Fishing day was going to happen.



#### **WC USE16 – Fish Nite “Live”**

**\$10,798 – CRD**

**Target: 1 product (accomplished)**

Fish Nite “Live” is a 30-60 minute video showing underwater footage of different fish species common to the Copper River Delta. Fish species include coho, pink, chum and sockeye salmon, Dolly Varden and cutthroat trout. This video is played from a DVD installed with a flat screen TV in the lobby of the Cordova Ranger District office. It is a play on-demand display for public viewing. A companion poster display accompanies the TV display and provides information on the fish species the public is seeing on the video.

#### **WC USE17 – Williwaw Creek Salmon Cam**

**\$40,400 – GRD**

**Target: 1 product (in progress)**

Williwaw Creek will provide a great opportunity for the Forest's first live Salmon Cam. The Glacier District has been gaining experience with underwater cameras and remote

power sources for the past three years. Now, we will use this experience, and recently upgraded fiber optics capabilities in Portage Valley, to bring live underwater salmon action to the Begich, Boggs Visitors Center and eventually to our website. Cam footage will be live from about August through September when colorful sockeye, chum, and coho salmon are spawning in the crystal clear waters of Williwaw Creek. A contract has been awarded to TechPro (Anchorage) to complete the work by mid July 2010.

**WC USE18 – Russian River Waste Management**

**\$30,000 – SRD**

**Target: 5 events (accomplished)**

Youth Restoration Corp was hired in partnership with the Forest to help remove filleted-out fish carcasses from locations on the Russian river where they naturally load (e.g. eddies, gravel bars, etc.). Overall, the effort was successful at dissipating the carcasses from the Russian River.

**WC USE19 – Russian River Management Strategy**

**\$31,236 – SRD**

**Target: 1 report (accomplished)**

District personnel awarded a contract to Northern Ecologic to evaluate strategies to manage and monitor the interactions of brown bears and humans in the vicinity of the Russian River. The evaluation will include a review of the efficacy of current and alternative management strategies and current monitoring protocols and address the effects of management actions designed to mitigate conditioning and habituation of bears.

**WC USE20 – Fisheries Interpretive Display for BBVC**

**\$22,000 – GRD**

**Target: 1 product (in progress)**

The Glacier Ranger District has awarded a contract to Real-Life Taxidermy to produce a high-quality fisheries display for the Begich, Boggs Visitors Center that will include life-like replicas of two species of Pacific salmon (sockeye and chum) and Dolly Varden char to mimic the predominate species found in Williwaw Creek in Portage Valley. These fish will be mounted around replicas of natural habitat (substrate, wood, rocks) encountered on their annual spawning migrations creating an “underwater” scene representative of Williwaw Creek.

## **NFWF Fisheries – Stewardship**

### **WC STW01 – Structure Inspection and Light Maintenance**

**\$31,487 – GRD**

**Target: 1 report (accomplished)**

Fishpass maintenance included two site visits to each of our six fishpasses and two spawning channels by a two- person crew. The crew travelled to the various fishpasses and project sites to conduct structural inspections and light maintenance. Work included hardware and fastener inspection, replacement, tightening, debris removal from steeppasses, turn-boxes, and entry pools, concrete inspections, and flow inspections (undercutting). Crews also investigated stream channels upstream of the structures to determine if any downed trees or other debris were impeding upstream migrations or may dislodge and cause a future blockage at the fishway structure.

### **WC STW02 – Fishpass Maintenance**

**\$19,886 – CRD**

**Target: NA**

The Cordova RD has 4 fishpasses that need to be inspected bi-annually to ensure proper functioning condition. There are also water control structures at Stump and Pipeline Lakes, and rock weirs at MLBS and YLBS Creeks that require maintenance inspections and work annually. General maintenance was performed at these sites. Rocky Bay needs to have extensive work done to replace the gabions with concrete structures (scheduled in FY10). Inspections revealed that Boswell Bay FP needs to have its gabion replaced with a concrete structure. The gabion water control structure maintaining the lake level of Stump Lake is also failing; it needs to be replaced with a concrete structure. Both the Boswell Bay and Stump Lake projects will be submitted as FY11 project proposals for funding.

### **WC STW03 – Fish Structure Maintenance - Trickle Dams**

**\$ 6,027 – SRD**

**Target: 1 report (accomplished)**

We have twelve trickle dam barriers on the Seward Ranger District for our small lake stocking program. Carter, Leech, Long, Jerome, Rainbow, Summit, Troop, Vagt, and four at Meridian Lake each have gabion structure outlets to keep the stocked triploid Rainbow Trout from out-migration. This year all structures were inspected for damage and all had light maintenance performed on them. This year we replaced two trickle dams, one at Rainbow and one at Summit. Forest service personnel were aided with the help of Department of Fish and Game Personnel during both projects.



#### **WC STW04 – Russian River Bank Protection**

**\$ 29,780 – SRD**

**Target: 4 miles (accomplished)**

This is for ongoing protection of sensitive riparian vegetation segments along the Russian River. This includes a partnership with the McLaughlin Youth Center of Anchorage. A few weeks prior to season opening we work with McLaughlin Youth Center to have a work crew assist USFS personnel with the installation of two miles of riparian fencing.



Ongoing stream bank protection is necessary along this heavily traveled fishing corridor. Twice a year a group of young men ranging in age from 15 to 18 camp in the campground for the weekend and assist Forest Service Personnel with the installation of two miles of riparian vegetation fencing. The youth pound rebar into the ground, roll out the fencing, and attach it to the rebar. In the fall they return to remove the fencing, rolling it back up and pulling the rebar for winter storage. This summer we had 252 man hours

from the McLaughlin Youth Center. We also installed 2 fish cleaning stations and 26 fish line recycle boxes on the Russian River. Throughout the course of the summer season the Stream Watch Volunteer repair the fencing as needed and empty the fish line recycle boxes.

In partnership with the NFWW Watershed program, this project also funded the Youth Restoration Corps (YRC) for a week to restore bank damage and erosion at the Red Salmon river access of the Russian River. The project includes installing large root wads into the eroding bank and adding fiber mats with sod transplants to rebuild the bank. The banks are eroding due to high angler traffic. Root wads were brought to the site, but the project was not completed (see WC STW02 under NFWW Watershed). Completion of the project is planned for FY10 using funds remaining in the YRC agreement.

#### **WC STW05 – Daves Creek Restoration**

**\$ 107,000 – SRD, SO**

**Target: 1 mile, 55 acres (accomplished)**

This is a partnership project between the USFS and the Kenai River Sportfishing Association, Kenai Watershed Forum, and Trout Unlimited. Over \$200k in HTAP funding was acquired to replace the culvert with a bridge and open fish access to Tern Lake. Approximately \$160k was matched with USFS funds from the NFWF Fisheries and NFWW Watershed programs to complete a major portion of the channel restoration for 1500 feet of channel. Early monitoring results indicate an increase in the number of coho salmon spawning in the channel. More work using \$100k of Kenai Watershed Forum funding and \$200k of USFS ARRA support will be completed next year to develop and re-vegetate flood plains, enhance off channel rearing, and make needed modifications to the stream channel.

**WC STW06 – Alaganik Slough Stream Bank Restoration****\$18,852 – CRD****Target: 2 miles (accomplished)**

This project addressed stream bank erosion, de-vegetation and soil compaction by constructing a set of steps from the top of the bank to the water level of the stream. After construction, the crew seeded the raw banks with native grass seed. The project was completed in partnership with the trail crew.

**WC STW07 – Kenai Lake and River WRP****\$ 8,000 – SRD****Target: 1 report (partially accomplished)**

This project is co-funded between NFVW Watershed and NFWF Fisheries. The field portion of this project was completed and included floating the shoreline of Kenai Lake and documenting the substrate, vegetation and erosion aspects of the shoreline to determine if the damage is naturally occurring due to wave activity or due to recreational degradation. More extensive shore surveys were conducted at day use sites on the lake shores. From these field reviews we were able to make suggestions of areas in need of restoration and the priority types associated with the areas. We are currently working to incorporate our data into a written restoration plan and anticipate completing the plan during fiscal year 2010.

**WC STW08 – Alaganik Watershed Restoration Plan****\$10,700 – CRD****Target: 1 report (accomplished)**

This project was co-funded between NFVW-watershed and NFWF-fish. The Alaganik watershed is heavily used by anglers, subsistence users, hunters and recreationists. This project evaluated opportunities for both upland and riverine watershed restoration.

**WC STW09 – M38 Road Restoration Ph 2****\$5,388 – CRD****Target: 1 mile (not accomplished)**

Phase 2 was intended to re-vegetate any areas of the M38 project that did not take after the first season of seeding and planting. Phase 2 did not occur since Phase 1 was not implemented this year (see below WC STW14).

**WC STW10 – Williwaw Spawning Habitat Enhancement****\$34,500 – GRD****Target: 1 mile, 15 acres (accomplished)**

The purpose of this project is to create additional spawning habitat in a 600 foot unproductive reach of the Williwaw Spawning Channel. Four individual spawning “beds” were completed in this reach. Each newly created spawning area provides approximately 300 square feet of additional spawning habitat for a total of about 1200 square feet of spawning habitat. Large boulders were entrenched at the downstream boundary of each spawning area to create a “tail crest” which is a popular area for fish to spawn in natural environments. Willows were planted along disturbed shoreline areas.

Follow-up weekly spawning surveys indicated that pink, chum, and coho salmon are using the newly created habitat to spawn.

#### **WC STW11 – Holbrook Pond Restoration**

**\$51,587 – CRD**

**Target: 1 mile, 10 acres (partially accomplished)**

Holbrook Pond was a 10 acre gravel pit pond that provided important summer and winter habitat for juvenile coho salmon. The pond was contained by a man-made berm, but beavers had built a dam on top of the outlet. When the dam failed, the outlet down-cut through the berm thereby draining about ½ of the pond; this reduced the depth and size of the pond which reduced its suitability for winter habitat. This project is meant to restore the pond to its previous 10 acre size by building a water control structure at the outlet and re-establishing the berm adjacent to the water control structure.

This project was not fully implemented this year for the following reasons. The engineering design was 5 months overdue (did not receive until May). This delayed finalizing NEPA. NEPA was completed after receiving the design. An Army Corps of Engineer 404 permit was also required; they took 3 months to issue the permit (there was some internal shuffle occurring between the Anchorage and Juneau offices and this project got caught up in that). The permit was issued one day past the in-stream timing window allowed by the ADFG permit. Since we would have been past the timing window, no in-stream work was accomplished this year. However, all the rock for the construction of the water control structure and berm was purchased and stock-piled at the site.

#### **WC STW12 – Portage Island Pond Stabilization**

**\$ 12,000 – GRD**

**Target: 1 mile; 5 acres (accomplished)**

After a fish habitat enhancement project was completed in 2007, it was determined that some revegetation work would need to occur to stabilize some of the disturbed areas. The majority of this work needed to occur near the outlet of Portage Island Pond on both the upstream and downstream side of the check dam. Therefore, willow cuttings were cut and collected during the winter, stored in a chest freezer until the soil thawed, and then systematically planted along the shorelines and in shallow water areas next to the banks. Between 150 and 200 cuttings were planted. The cuttings ranged from ½ inch to 1 inch in diameter and were at least 10 to 15 inches long. The cuttings were inserted into the substrate/soil deep enough to remain saturated indefinitely with a minimum of two or three leaf nodes exposed above ground. Follow up surveys indicated about a 50% survival rate of the newly planted cuttings.

#### **WC STW13 – Shrode Fishpass Modification and Repair**

**\$ 40,669 – GRD**

**Target: 2 miles; 244 acres (accomplished)**

This project was aimed at modifying and improving the structural integrity and effectiveness of the District's oldest fishway. This structure has had significant repairs in the past and monitoring has determined the repairs were not effective. Therefore,

modifications to the structure were completed. Modifications consisted primarily of cutting wider and deeper openings in the existing concrete weirs to create better flows through the fishway and removing portions of the bedrock to form deeper pools at the entrance and exit of the fishway.

**WC STW14 – M38 Stream Bank Restoration Ph 1**

**\$23,000 – CRD**

**Target: 2 miles (not accomplished)**

In FY08 we lost this project funding to Fire Transfer. This year, the new route was flagged and brushed, the contract prepped and awarded, and then the WO stopped all projects related to the Roadless Rule. Currently, there is a project package addressing the roadless rule issues at the WO awaiting review and hopefully the Forest will receive approval that this project may soon move forward.

**WC STW15 – Pipeline Lakes Spawning Enhancement**

**\$40,843 – CRD**

**Target: 10 acres (accomplished)**

This is a multi-year project that intends to create a self sustaining cutthroat trout population in Pipeline Lakes 1 & 2. The first phase was completed in FY09; gravel cribs were built at the outlets of Pipeline Lakes 1 & 2. These gravel areas will serve as quality spawning grounds once cutthroat are re-introduced to the lakes in subsequent phases over the next 2 years.

**WC STW16 – Otter Fishway Repair**

**\$ 19,668 – GRD**

**Target: 3 miles; 300 acres (accomplished)**

The original railroad ties used to create the two jumppools at the base of an aluminum steppass were disassembled and hauled out. Two new concrete pads were poured and the jumppools were replaced with two aluminum “jumppool” structures. Aluminum pools will not deteriorate over time, are more water-tight, and are highly adjustable to accommodate better adult fish access in all flow conditions. The aluminum was painted with an epoxy-based paint to match the surrounding natural features and colors to reduce visibility to Forest visitors.

## **NFWF Fisheries – Information**

### **WC INFO01 – Daves Creek Monitoring**

**\$15,634 – SRD, SO**

**Target - 1 report (in progress)**

The first phase of the Daves Creek restoration in channel work was completed July 15 and monitoring of adult fish began the next day. The restored reach and a reference reach downstream were walked once per week until October 15 to enumerate adult salmon. Adult salmon of all species were counted using snorkeling and bank observations as an index. Studies were also conducted to compare existing habitat with utilized habitat of adult spawning salmon in order to direct in stream channel work in 2010. Initial results indicate that salmon have responded very positively to the newly reconstructed channel and replacement of the culvert with a bridge.

### **WC INFO02 – Resurrection Creek Post-Project Monitoring**

**\$21,367 – SRD**

**Target: 1 report (in progress)**

The restored reach of Resurrection Creek was monitored once per week from July 15 to October 15 to count adult spawning salmon. Adult salmon of all species were counted using snorkeling and bank observations as an index. This restored reach continues to hold six to ten times the number of adult salmon when compared to pre-project data. The restoration project completed has been a marked success.

### **WC INFO03 – Pond Habitat Enhancement on the Copper River Delta (ie, Pond Ecology)**

**\$64,961 – CRD**

**Target: 1 report (accomplished)**

At mid-year \$20,000 was added to the original work chunk amount to add isotope analysis to the project. The pond ecology project focuses on determining pond types on the Copper River Delta, long-term pond productivity and expected change over time with resultant impacts to the fisheries. The 2 aquatic Master's degree students from Michigan State University and Loyola University are currently analyzing their data and writing their respective thesis's. They are expected to finish spring of 2010.

### **WC INFO04 – Self Lake Salmon Reintroduction Monitoring**

**\$17,709 – GRD**

**Target: 1 report (in progress)**

The ultimate measure of success for this project is to create a self-sustaining sockeye salmon population that has a large enough escapement to consider proposals for a limited subsistence fishery for the residents of Chenega. However, now that the fry stocking phase has been discontinued, we need to know if the "wild" population can maintain great enough stock densities to continue pursuing the possibility of a subsistence fishery. Therefore, we continued sockeye escapement monitoring using the DVR set-up that has been used the previous two years. Additionally, we continued our zooplankton monitoring to determine if densities and biomass are enough to provide an adequate

forage base for future generations of juvenile sockeye salmon. Initial results indicate we have been successful in re-establishing a self-sustaining population of sockeye salmon.

**WC INFO05 – New Resurrection Creek Pre-Project Monitoring**

**\$16,460 – SRD**

**Target: 1 report (in progress)**

Adult salmon were monitored between October 1 and July 15 in the 2-mile long reach proposed for the Resurrection Creek Phase II Stream Restoration Project.. Adult salmon of all species were counted using snorkeling and bank observations as an index. This index will be compared with post project data in order to determine overall success. Results indicated that this reach is highly under-utilized due to the lack of available spawning habitat.

**WC INFO06 – Twentymile River Chinook Habitat Use Survey**

**\$18,651 – GRD**

**Target: 1 report (in progress; year 2 of 3)**

The primary goals of this project are to determine Chinook salmon spawning habitat availability based on depth, velocity, and substrate in Carmen River and to provide a map defining these areas. After the first year (FY08) of the project, 21 potential spawning areas were identified. Water depth and velocity were measured at each site and a substrate particle composition analysis was used to determine if the gravel could be considered suitable for Chinook salmon spawning habitat. Once the adult Chinook started spawning, weekly surveys were conducted to verify that Chinook used these areas to spawn and whether they were spawning in some areas that had not previously been identified. In FY09, we continued to conduct our weekly spawning surveys to better determine the extent of Chinook spawning distribution. Additionally, we followed up with physical habitat measurements in areas not initially identified but later found to be used by spawning fish – helping to build a description of suitable spawning habitat in the Carmen River.

**WC INFO07 – Portage Creek Fish and Watershed Restoration Plan**

**\$11,150 – GRD**

**Target: 1 report (in progress)**

The goal of this project is to put together a plan that identifies impaired stream segments in the Portage Creek watershed, inventories past restoration and enhancement projects in the watershed, identifies stressors impacting the watershed, and analyzes various alternatives for watershed restoration and fish habitat enhancement at impacted sites on a watershed scale. Phase I of this project (data collection) was funded in FY08 under the NFWF Watershed program. Phase II of this project (completion of the plan) was funded in FY09 under the NFWF Fisheries program. A comprehensive map has been generated of all known past restoration and enhancement activities in the watershed. Many of the locations were visited to determine current site condition and the need for repairs and modifications, and District and SO specialists worked together to generate some ideas of future restoration needs in the watershed. However, the plan was never compiled as a result of shifting priorities, and at this point, a draft has not been completed. The district will explore options and the need for completing the plan in FY10.

**WC INFO08 – Copper River Hwy Angler Management Plan****\$39,315 – CRD****Target: progress report (2-year project)**

The goal of this project is to create a community-based angler management plan. Over the past several years more and more visitors are coming to Cordova to go sport fishing for coho salmon. This has created some conflict among different types of user groups, caused problems with public safety and resource damage. Members of the community asked the Forest Service to lead a cooperative effort to resolve these issues. Three public meetings were hosted by the Forest Service this year to collect information and identify issues and opportunities related to the coho salmon fishery. Participants include state, tribal members, municipal, corporate and private individuals. The series of meetings were held pre-commercial fishing season, pre-coho season and post-coho season. In FY10 we plan to synthesize all the information and comments into a cohesive plan for the community.

**WC INFO09 – Eyak River Bank Restoration Monitoring****\$4,940 – CRD****Target: 1 report (accomplished)**

In FY08 the crew completed a stream bank restoration project on Eyak River. The bank had been degraded from intense angler foot traffic. In FY09 the fish crew returned to the restoration site to see how well the stream bank was protected and how well the vegetation survived. The anglers seem to have respected the fencing and signs. Most of the site was intact, but one area needed a little more armoring (from boat wakes) and some new shrubs. Overall, the project was a success.

**WC INFO10 – Glacier District Portage Island Pond Monitoring****\$12,115 – GRD****Target : 1 report (accomplished)**

In 2007, the Glacier Ranger District completed a project that increased the size, deepened, and provided an access channel to Portage Creek for a previously land-locked pond in Portage Valley. The goal for that project was to provide additional off-channel summer and winter rearing habitat for anadromous fish in the Portage Creek watershed. The purpose of our monitoring effort in 2009 was to determine if juvenile fish from Portage Creek were utilizing this new pond and if the pond could support them through the winter. Based on these results, we will determine if the desired conditions exist or if modifications need to be considered. Because the pond only had sticklebacks in it prior to modifications, it was easy to determine that juvenile salmon and char were able to find the pond and were utilizing it. The next task will be to determine if juvenile salmonids can be sustained in the pond through the winter.

**WC INFO11 – Pipeline Lake 4 Fish Access Monitoring****\$4,624 – CRD****Target: 1 report (accomplished)**

In 2008, a series of stop pools were constructed at the outlet of Pipeline Lake 4 to allow cutthroat trout passage into and out of the lake. This year the crew monitored the prior

year's work. Unfortunately the main structure failed. So, the crew returned later in the summer and rebuilt the failed step pool using different methods. We will monitor the structure again next year to see if the method was successful.

**WC INFO12 – Cooper Creek Monitoring**

**\$4,624 – SRD, GRD, SO**

**Target: 1 report (in progress)**

Cooper Creek was monitored for adult salmon between July 15 and October 15. The work was initiated to develop pre-project data in anticipation of a watershed restoration project planned for 2011. Streamside ocular counts were used in the lower mile of stream and adult salmon counted. In cooperation with Chugach Electric, a video monitoring weir was set up and tested for use in subsequent years. With the help of GRD staff, the video pilot study was a resounding success. Early indications indicate that there are very few adult salmon using Cooper Creek for spawning.

**NFWF Botany – Program Accomplishments**

**WC01 – Botany Program Administration**

**\$11,685 – (5.2K SO, 6.5K GRD)**

For the botany program, includes current and outyear work planning and budgeting, reporting, responses to internal and external requests for information, supervising, and coordination with other agencies' partners, participation on regional teams, travel, training, and annual leave. Also provides technical assistance to Forest and district botany program accomplishment. The total FY2009 allocation to NFWF-botany program was \$69,740.

**WC01b – Rare Plant Training**

**\$2,500 – (1.1K SO, 0.9K GRD, 0.5 CRD)**

**Target: training session (accomplished)**

Covered salary costs for attending two days of rare plant training led by the Regional Botanist.

**WC02 – Maintenance of Native Plant Garden at BBVC**

**\$7,630 – GRD**

**Target: 1 site maintained (accomplished)**

The Glacier Ranger District started a native plant garden at the BBVC in FY05. This garden is used as an educational tool as well as providing an alternative means of landscaping using only native plants. This year we decided to completely redo the garden. Although the plants in the garden have been doing well, the overall layout and site were poor. Due to those reasons, we decided to make two-tiered raised beds with rock retaining walls. The bulk of the work was accomplished with a large group of Girl Scouts on a sunny Saturday in September. The work consisted of removing plants, building rock retaining walls, adding soil, and then replanting plants. We expect heavy mortality of plants and will supplement with new plants either by seed collected in 2009 or by transplanting in the spring.

**WC03 – Fungus Fair (GRD)****\$3,450 – GRD****Target: 1 festival (accomplished)**

With this work chunk we focused on conducting a weekend long “Fungus Fair” in Girdwood. This project was a coordinated event with the Girdwood Parks and Recreation and many others. The weekend kicked-off with the Fungus Fair “Formal” at the Hotel Alyeska. This event featured a five-course gourmet fungal feast with wine pairings. The rest of the weekend centered on activities aimed at expanding local knowledge of fungi in the Girdwood area through a series of talks by local experts, guided mushroom forays, mushroom cultivation workshops, and an incredible display of local mushrooms in the new Girdwood Community center. There was something for everyone at Fungus Fair with other activities such as the Fun-Guy/Fun-Gal Fun Run, and a wildly popular kid’s arts and crafts workshop. Over 110 species of fungi were collected during the weekend forays. Hundreds of people attended the various events throughout the weekend. The big finale was a Mushroom Identification Workshop led by University of Washington affiliate professor and co-author of the newly released “Mushrooms of the Pacific Northwest” field guide Dr. Steve Trudell. Dr. Trudell was only part way through his four stop Alaska whirlwind tour of Fungus Festivals and put on a terrific workshop for an enthusiastic crowd.

**WC03 – Fungus Festival (CRD)****\$5,600 – CRD****Target: 1 festival (accomplished, including 10 presentations)**

The CRD organized and presented the 2<sup>nd</sup> annual Fungus Festival from August 31-September 6<sup>th</sup>. The event is an ongoing partnership between the USDA Forest Service, the Cordova Chamber of Commerce and the Prince William Sound Science Center. In 2009 over 200 attendees of all ages participated. While the festival focuses on outdoor activities, specifically mushroom and lichen identification, an additional focus is forest ecosystems and the roles fungus plays in them. Festival participants are taught "good stewardship" practices in both identification and collection of species of interest. In 2009, activities ranged from grade school mushroom education, to forays and identification classes, to learning to use mushroom and lichens for a variety of handicrafts.

This year a variety of guest speakers were sponsored by both the Forest Service and the Chamber of Commerce they included: Dr. Steve Trudell, Patrick Hamilton, Dr. Karen Casselman, Dorothy Beebee, Karen Dillman, and Dr. Lawrence Millman. The Festival hosted 5 forest forays, a lichen hike and presentation, lichen dye workshop, mushroom papermaking, two movie nights, ethnomycology presentation, an introduction to mushrooms class, and children’s activities. During the festival the US Forest Service displayed mushroom identification tables for the general public to view and had mycologists on hand for identification. Additionally, businesses in town hosted events

such as wine and mushroom pairings. The evening was finished by a Cordova Chamber of Commerce Fungus Feast.

#### **WC04 – Celebrating Wildflowers (SO)**

**\$4,910 – SO**

**Target: 4 products (5 accomplished; i.e., 2 hikes, 1 website, 1 article, 1 presentation)**

There were four primary accomplishments:

- 1) Led two Celebrating Wildflowers nature hikes in the Anchorage area. The focus was on educating the public on native plant species of the area.
- 2) Twice updated the website for the Turnagain Pass Wildflower Viewing Area to document what's flowering there (i.e., <http://www.fs.fed.us/wildflowers/regions/alaska/Turnagain/index.shtml>).
- 3) Developed a "Plant of the Week" write up concerning twinflower (*Linnaea borealis*) for potential posting on the Celebrating Wildflowers website.
- 4) Participated in the 2009 Natural Resource Career Fair offered to students of West High School (approximately 1,400 students) in the Anchorage School District. The Fair is an annual event in Anchorage that is organized by US Fish and Wildlife Service and the National Wildlife Federation. The Chugach National Forest presentation emphasized botanical and plant ecological career opportunities with particular reference to the USDA Forest Service and specific examples of rare plant and ecological work on the Chugach.



*Celebrating Wildflowers field trip participants above the "Ballpark".*

#### **WC04 – Celebrating Wildflowers (GRD and SRD)**

**\$4,965 – GRD and SRD**

**Target: 13 products (3 events and 13 articles accomplished)**

For Celebrating Wildflowers, the GRD had talks and walks lead by Lawrence Millman. He is an author who has written 12 books, including such titles as *Last Places*, *Northern Latitudes*, *An Evening Among Headhunters*, and *A Kayak Full of Ghosts*. As an explorer, he has made over forty trips and expeditions to the Arctic and Subarctic. And as a mycologist, he has made inventories of fungi in Canada's Nunavik region as well as

different parts of his native New England. In 2005, he and a fellow mycologist discovered a specimen of *Echinodontium ballouii*, a fungus that had been considered extinct since 1909. His talks were on arctic fungi and ethnomycology of the north. He also conducted a three-hour long walk on mushroom identification.

In addition, the GRD ecology staff wrote numerous articles for the local paper, Turnagain Times. Three articles were published in the Turnagain Times this summer; one was focused on wildflower ethics, and the other two articles were focused on invasive species. The GRD staff also wrote 10 more articles on various native species that can be featured as plants-of-the-week in the local paper next summer.

#### **WC04 – Celebrating Wildflowers (CRD)**

**\$3,000 – CRD**

**Target: 3 events (3 accomplished)**

The Cordova Ranger District has developed a local Celebrating Wildflowers program through a variety of events including, hikes, talks and workshops that highlight the unique ecosystems in the area. In 2009, the District covered a variety of Celebrating Wildflowers topics. In July, District staff presented wildflower and ecosystem programs on the Copper River Delta (12 attendees). In September, District staff presented two lichen hikes and one lunchtime slide presentation on lichens (10 attendees). The focus of the Celebrating Wildflowers program this year was primarily on plants in their respective ecosystems and their unique functions in those systems.

#### **WC05 – PWS Shoreline Rare Plant Inventory (Boat Contract Overrun)**

**\$16,000 – GRD**

For details on this project see the write-up for the NFIM work chunk “INV01 – Shoreline Rare Plant Inventory”. \$16,000 of NFWF funds were combined with the \$22,533 of NFIM funds to cover boat contracting costs.

#### **WC08 – Invasive Weeds Power Washer**

**\$10,000 – GRD**

**Target: 2 devices (1 washer and 1 trailer purchased)**

With this work chunk portable weed washer equipment was purchased. Specifically: power washer, pump, 250 gallon water tank, and trailer. This system can be brought to any site accessible by trucks. The purpose is to clean equipment prior to any ground disturbing work in order to reduce the spread of non-native plants. Originally the plan was to purchase two power washers, but we needed a trailer to transport all the equipment. Otherwise the system would not be portable.

## **WFHF – Hazardous Fuels Program**

The FY 2009 hazardous fuels planned accomplishment was for 700 acres. With additional funding from the Region, an additional 92 acres were added for a total of 792 acres. The Forest Service Activity Tracking System (FACTS) reported acres are different from WorkPlan acres. This is due to the difference in reporting rules between the two systems. WorkPlan reports foot print acres while in FACTS, treated acres by activity are reported.

### **WC01a – Fuels Program Administration**

**\$317,559 – (198.9K SO, 118.7K SRD)**

For the Chugach Hazardous Fuels Program, the work chunk included current and out-year work planning and budgeting, reporting, responses to internal and external requests for information, travel, training, annual leave, sick leave, and holidays. All program accomplishment was on the Kenai Peninsula portion of the Forest with most acres of hazardous fuels treatment within WUI on SRD (792 acre total of a 700 acre target). The total FY2009 allocation to WFHF was \$923,800 to the Forest.

### **WC 0 – GIS Data Maintenance**

**\$6,000 – SO**

Data cleanup and reformatting to geodatabases and migration to the Enterprise Data Center (EDC). This work was completed as described for Timber Type, Fire Polygons and Fire Points layers. This \$10K project was also funded by NFTM (\$4K).

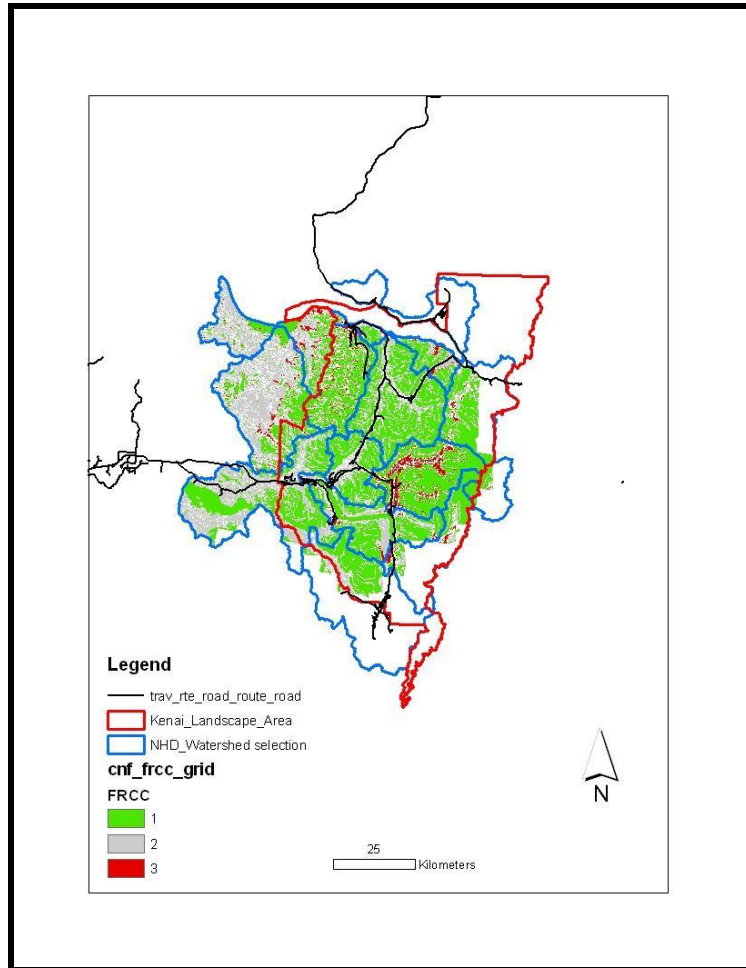
### **WC01b – Fire Regime Condition Class Map**

**\$21,971 – (18K SO, 4K SRD)**

#### **Target: report and GIS database (accomplished)**

Fire Regime Condition Class (FRCC) provides estimates of how similar a landscape's fire regime is to its natural or historical state (based on comparisons of current conditions versus reference conditions). An initial FRCC map of the Kenai Mountains portion of the Chugach NF was created in FY2005 (R.L. DeVelice, *unpublished*). Since that time, four major landcover mapping projects have been completed for most of the Kenai Peninsula: 1) LANDFIRE (<http://www.landfire.gov/>) mapping of the Cook Inlet and a large portion of the Kenai Peninsula area by the USGS; 2) Multi-Resolution Land Characteristics by the USGS; 3) the Kenai Peninsula Landcover Classification by the USFWS; and 4) vegetation mapping completed by the Kenai Peninsula Borough, Spruce Bark Beetle Mitigation Program. LANDFIRE is scheduled for completion in Alaska by the end of 2009. Included among the LANDFIRE data products is a FRCC layer. FRCC derived from LANDFIRE is not yet available. In the interim, the Kenai Peninsula Borough vegetation map (Kenai\_Borough\_Veg.mdb in the Chugach NF GIS database) was used to derive the FRCC map described here based on succession class departure (not frequency-severity departure). Based on this analysis, of the combined acreage of the Coastal Boreal Transition Forest and Kenai Mountains Hemlock biophysical settings, 9 percent is in FRCC 1, 72 percent in FRCC 2, and 19 percent in FRCC 3. Given the limitations and caveats listed in the project report these results should be regarded as an approximation of FRCC mapping for the Kenai Mountains portion of the Chugach NF.

The data and derivatives should be useful towards evaluating the FRCC outputs from LANDFIRE.



*Map of fire regime condition classes as derived from the clipped portion of the Kenai Peninsula Borough vegetation map.*

#### **WC02 – Rx Burn Piles**

**\$165,427 – SRD**

**Target: 550 acres (518 acres accomplished)**

A total of 518 acres of hazardous fuels pile burning were accomplished within the WUI. The projects associated with the treatment are Cooper Lake, Hope mile 10 to 15, Primrose, and Quartz South.

#### **WC03 – Primrose Project**

**\$39,075 – SRD**

**Target: 68 acres (accomplished)**

Forest account crew treated 68 acre of hazardous fuels on the project. 2009 was the second consecutive year of treating the project area that totaled 128. The Primrose project included an adaptive management area that was implemented in partnership with the community. With the help of the Youth Restoration Corps (\$30K for ten days) this

project is in the third stage of completion. Burning of the piles remaining is planned for FY 2010.

**WC04 – Cooper Creek Restoration Implementation**

**\$28,823 – SRD**

**Target: 175 acres (contract prepared for 100 acres)**

Planned to award multi-financed contract for hand treat on a 100 acres in the Cooper Creek project area. Due to recent events for request of approval from the Secretary of Agriculture, the contract was not awarded. The unit was laid out, prep work was completed and contract was ready for award. Remaining funds were moved to Hope Implementation project

**WC05 – Bean Creek North Restoration NEPA**

**\$22,758 – SRD**

**Target: 1 NEPA decision (expected in 2010)**

The Bean Creek North Restoration NEPA project was intended to prepare a NEPA document and decision for vegetation improvement, wildlife habitat improvement, and hazardous fuel reduction. Due to changing priorities, funding for this project was used to fund the Avalanche Acres HFRA project. A decision was not signed in fiscal year 2009, but much of the analysis has been completed. The decision was not signed due to resources being diverted to higher priority projects. A signed decision is expected in early 2010. Additional contributions to this project were made by NFVW and NFWF.

**WC06 – Moose Pass 7A**

**\$36,500 – SRD**

**Target: 60 acres (accomplished)**

An additional 60 acres of hand treatment were contracted in the Moose Pass 7A project area. The additional acres became available at the end of the FY 2009. Treatment enhances the area for hazardous fuels reduction.

**WC07 – Hope Area Implementation**

**\$220,456 – SRD**

**Target: 148 acres (contract awarded)**

Total project area for Hope Gate 1 is 875 acres; the contract awarded was 148 acres. The contract was multi-financed (WFHF, NFVW, and NFWF) for mechanical treatment for 148 acres with 137 acres in the hazardous fuel portion of the project area. Contract was awarded at the end of September and work will be implemented when we have frozen ground or snow.

**WC10 – ARRA Support**

**\$49,000 – SRD**

Support for unplanned work for ARRA projects in the Hope and Cooper Lake areas. This included the layout of 875 acres, contract preparation and coordination with the ARRA contract office.

### ***Background***

The two ARRA hazardous fuels projects were identified and submitted in FY 09. The administration halted all projects with Roadless components pending review and approval by OSEC. Re-delegation to the Regional Forester was completed and both projects were approved after review.

### ***Current Situation***

Contracting is working on the projects and awards are pending (end of December). Lay out of the last units within the Hope project area will occur before the end of the second week in December. We anticipate a successful outcome from our endeavors in reducing hazardous fuels within the WUI and meeting the administrations goals.

### ***Acreage Estimates***

Hope project mechanical treatment winter FY 2010/2011 approximately 340 acres  
Hope project hand treatments spring/summer FY 2010/2011 approximately 360 acres  
Cooper Lake project mechanical treatment winter 2010/2011 approximately 200 acres

### ***Future Work***

In the near future contract administration will be the emphases of these projects. This work load is anticipated to be spread out over a two (possibly three) season time line due to the nature of the work (hand and mechanical) to be completed. Products such as firewood, house logs, biomass, and wildlife habitat improvement could be produced as side benefits and outcomes. Forest product utilization and administration outside of Roadless could start as early as FY 11/12 or 13. Additional funding for all contract and product administration in future years program of work should be considered. These additional forest byproducts could provide sources of employment and income to local communities in the short term.

## **NFTM – Timber Program Accomplishments**

### **WC01 – Timber Program Administration**

**\$72,510 – (21.3K SO, 2.2K GRD, 5.9K CRD, 43.1K SRD)**

For the forest products program, this included current and out-year work planning and budgeting, reporting, responses to internal and external requests for information, travel, training, AL/SL/holidays and Forest-wide special projects. The total FY09 allocation to NFTM was \$150,000.

### **WC 0 – GIS Data Maintenance**

**\$4,000 – SO**

Data cleanup and reformatting to geodatabases and migration to the Enterprise Data Center (EDC). This work was completed as described for Timber Type, Fire Polygons and Fire Points layers. This \$10K project was also funded by WFHF (\$6K).

### **WC02 – Personal Use and Alaska Free Use Program**

**\$46,990 – SRD**

**\$8,625 – CRD**

**Target: 2,000 CCF (178 CCF accomplished)**

The Seward Ranger District issued 27 permits totaling 178 CCF. This project also funded time to coordinate with the Kenai Peninsula Borough on their hazard tree removal project along the Hope Highway. By coordinating with the Kenai Peninsula Borough on their hazard tree removal, the Seward Ranger District was able to provide wood products to the public from dead trees the borough cut near the road. These trees were made available to the public with no permit required. This volume was not recorded in TIM because no permits were issued.

The Cordova Ranger District (CRD) issued 54 permits from the M12 community woodcutting area which is a joint partnership between the Forest Service, State of Alaska, City of Cordova, and DOT. CRD also issued 20 free-use permits from the Surprise Valley Road Log Decks in partnership with CEC, Eyak, and State of Alaska as part of the Surprise Valley Road Agreement. Most people cut around 2-5 cords for each permit issued.

Note: The 2,000 CCF target was an estimate of the amount of wood that would be disposed of by issuing permits. The amount of timber disposed of by permit was significantly lower than estimated because a large quantity of wood was available for which permits were not required. The availability of wood that did not require a permit, made it impossible to track the volume of timber collected under Alaska Free Use regulations.

### **WC03a – Wood Deck Sales**

**\$14,375 – SRD**

**Target: 0 (509 CCF Sold and administered)**

The purpose of this project was to meet the demand for commercial sale of firewood. To accomplish this objective, money was invested in acquiring assistance from Tongass and

Regional Office Timber personnel to advertise, award, and administer commercial firewood sales. The 509 CCF sold and administered was distributed among 4 timber sales.

**WC04 – Regional Silviculturist Workshop**

**\$3,500 – SRD**

This project funded representation of the Chugach National Forest at the Regional Silviculturist Meeting in Craig, AK. Marcus Chin attended the meeting as the silviculture representative for the Chugach. While attending this information sharing session, Marcus gave a brief presentation about vegetation management on the Chugach.

**NFIM – Inventory and Monitoring Program Accomplishments**

**NFIM Administration**

**WC 1 – Inventory and Monitoring Program Administration – Supervisor’s Office**

**\$48,891 – Monitoring**

**\$44,593 – Inventory**

**\$20,000 – Planning-MNRI**

This work chunk pays for administrative time for the resource staff officer, administrative assistant, and NFIM program manager. Tasks accomplished are program direction, planning, work chunk meetings, Forest budget formulation and submission to the Regional Office, IPOW processes, allocation, coordination, oversight, reallocation of fire-borrow and carry-over funds, development and submission of program adjustment requests, and program adjustment allocation. There is also some travel, training, and annual leave included.

**WC 1 – Inventory and Monitoring Program Administration – Ranger Districts**

**\$5,000 – Landscape Assessment (2.5K GRD, 2.5K SRD)**

**\$34,125 – Monitoring (11.4K GRD, 11.4K CRD, 11.4K SRD)**

**\$93,785 – Inventory (29.6K GRD, 34.6K CRD, 29.6K SRD)**

This work chunk provided program oversight, current and out-year planning and budgeting, reporting, travel, and training as well as technical assistance for the Forest inventory and monitoring program. It also included attending all the annual work chunk meetings and developing the work chunk plans. It also includes current and out-year planning and budgeting, reporting, travel, training, annual leave/sick-leave/holidays, and Forest-wide special projects not in the program at the time of development. Also provides for technical coordination and assistance to districts, Forest-wide inventories, Forest Plan monitoring, landscape assessments, resource mapping, etc.

## **NFIM Landscape Assessment**

### **WC LA01 – Quartz Creek Landscape Assessment**

**\$25,000 – (14.8K SO, 10.2K SRD)**

#### **Target: 1 Landscape Assessment (in progress)**

Forest and TEAMS Enterprise personnel are preparing a landscape assessment for the Quartz Creek watershed. The document produced will follow the Bureau of Land Management document “Ecosystem Analysis at a Watershed Scale: A Federal Guide to Watershed Analysis” and contain the following sections: Watershed Characterization; Key Issues and Questions; Current Conditions; Reference Conditions; Synthesis and Interpretation; Desired Condition, Opportunities, and Management Strategies; Data Gaps and Recommended Surveys; Recommendations; and Potential restoration alternatives to be considered. The Forest GIS unit prepared data sets from corporate data layers in project specific geodatabases in support of this landscape assessment. Specialist contributions have been provided to the Team Leader and the assessment is anticipated to be finalized in the first quarter of 2010.

### **WC LA02 – Three Rivers Assessment**

**\$35,000 – GRD**

#### **Target: 1 Assessment (see bullets below)**

The purpose of the Three Rivers Planning process is to continue to provide a diversity of quality summer river-based recreational opportunities on Twentymile River, Placer River, and Portage Creek. Communications with the commercial and non-commercial public river users, Alaska DNR and Fish and Game are critical components in the planning process. In FY 2009, due to uncertainty in surrounding lands issues and Alaska DOT’s plans for the Seward Highway, the scope of the project was reduced to developing capacity studies on the rivers and corresponding lakes (excluding Portage Lake).

Accomplishments include:

- Developed a capacity for Placer River and Spencer Lake, as well as Portage Creek
- Meeting with current permit holders to better understand the commercial perspective
- Held a public meeting to learn more about the public’s needs and concerns
- Coordinated a day-long trip on Twentymile River with the River Management Society to get feedback on management efforts from river management professionals
- Assessed the access points to determine where and if improvements would be recommended
- Met with Alaska DNR to continue dialogue on lands and jurisdictional issues
- Gathered indirect use data through a daily tally of vehicles in parking areas at the mouth of all three rivers

## **NFIM Monitoring**

### **WC MON00 – Protocol Development**

**\$101,000 – (99.2K SO, 1.2K CRD, 0.6K SRD)**

**Target: 12 completed protocols (3 accomplished; 9 in progress)**

Under this project the following 12 Forest plan monitoring protocol were to be completed and brought forward for approval as final by the Forest Leadership Team:

<u>Protocol</u>	<u>Status</u>	<u>FY09 work chunk Applying Protocol</u>
Ecosystem Change	approved	MON14
Sensitive Plants	approved	MON13
Invasive Plants	approved	MON05
Fire Hazard	draft, final in 2010	MON04
Soil	draft, final in 2010	MON10
OHV Effects	draft, final in 2010 (merged into “Soil” protocol)	
Brown Bear	draft, final in 2010	MON02 and MON07
Dusky Geese	draft, final in 2010	MON06
Moose	draft, final in 2010	MON12
Black Oystercatcher	draft, final in 2010	MON09
Kenai Wolverine	draft, final in 2010	none
Mountain Goat	draft, final in 2010	none

Three of the wildlife monitoring protocols are being completed under Sikes Act agreements with the Alaska Department of Fish and Game (Kenai wolverine, brown bear) and with the University of Alaska-Anchorage (moose)

In addition, \$35K from this project was applied to the ISA with the Remote Sensing Application Center (RSAC) in support of “WC INV02 – Copper River Delta Vegetation Mapping”.

### **WC MON01 – Forest Plan Monitoring and Evaluation Report**

**\$26,300 – SO**

**Target: 1 report (partially accomplished; remainder in progress)**

Project leaders monitoring facets of the plan were responsible for submitting a report that summarizes the data collected and evaluate if the activities implemented are meeting the desired future condition, standards and guidelines under which they have been implemented. Most reports are being edited and reviewed.

### **WC MON02 – Monitoring Adverse Interactions between Bears and Humans**

**\$3,700 – SO**

**Target: 1 monitoring requirement (completed)**

The Forest Plan seeks to manage human use within bear habitat to minimize the risk of “defense of life and property” mortality to brown bears (pp A/2). As a desired condition, the plan states “Brown bear/human confrontations will be minimal in important seasonal feeding areas and travel corridors, resulting in limited risks to brown bears through “defense of life and property” mortality (pp. 3/13). The plan also designated Brown

Bear Core Management Areas “to manage selected landscapes and their associated habitats to meet population objectives for brown bears and to reduce dangerous encounters between humans and brown bears”. These areas occur on the Kenai Peninsula, and have a priority for minimizing bear-human interactions, especially those resulting in human harm or bear DLP (pp. 3/14; 4/ 54; ROD pp 22). The Brown Bear Core Management Area specifically limits human-bear interactions by prescribing a 750 foot buffer to provide cover for brown bears while feeding at key anadromous fish streams. Combined with the Forest wide standard to limit the attractiveness of garbage and food to bears, this will help maintain brown bear viability on the Forest (pp. 3/28). The Revised Forest Plan is consistent with the recommendations of the Interagency Brown Bear Study Team conservation assessment (ROD pp. 39). CNF evaluated DLP incidents and adverse encounters across the Forest . These values were separated by District or relevant geographical area, such as the Kenai Peninsula and brown bear core areas and by activity under which the DLP occurred.

**WC MON03 - Project Implementation Monitoring**  
**\$30,365 – (27.2K SO, 1.9 GRD, 1.3K SRD)**

**Target: 1 monitoring requirement (partially accomplished).**

This is the second year of implementing required monitoring for question #1. Monitoring consists of reviewing the management activities to determine whether they are in compliance with Forest Plan direction. For FY 2009, the Chugach Planning staff coordinated the monitoring and evaluation of Forest Plan Questions #1. Question #2 was looked at but planning determine it was in draft form and not ready for use. Additionally the FLT had not approved it. Planning conducted 3 meetings between each District to gather the required NEPA documents for review and determining what to monitor. Draft write ups were completed. The planning staff reviewed 2 NEPA projects and prepared drafts of the forms for resource specific data collection for monitoring for questions 1. The planning team also finished the Forest Plan Monitoring question # 2 and will present it to the Forest Management team for final approval in 2010.

**WC MON04 – Fire Protection and Fuels Management Monitoring**  
**\$2,147 – (0.5K SO, 1.6K SRD)**

**Target: 1 monitoring requirement (completed)**

The draft of this protocol is in revision and has not yet been approved as final by the Forest Leadership Team. The protocol will be submitted for approval early in calendar year 2010.

The protocol includes both effectiveness and implementation monitoring components. The effectiveness monitoring interprets if changes in fire regime condition class (FRCC) and down wood abundance (based on Forest Inventory and Analysis data) on the Kenai Peninsula geographic area are of sufficient magnitude to be of concern to management. The implementation monitoring is to determine if fire protection and fuels management activities on the Forest are consistent with goals, objectives, standards and guidelines specified in the Forest Plan. As proposed, the implementation monitoring is reported on annually while the effectiveness monitoring every five years (first effectiveness monitoring report in 2012).

In regard to FY2009 implementation monitoring, 792 acres of hazardous fuel reduction were accomplishment (documented in FACTS). The Forest Plan specifies 400 acres of vegetation treatment per year to reduce fuel buildups, so the FY2009 accomplishment exceeds that average annual specification.

#### **WC MON05 – Invasive Plants Monitoring**

**\$2,874 – SO**

**Target: 1 monitoring requirement (completed)**

The April 6, 2009 version of the invasive plants monitoring protocol was approved as final by the Forest Leadership Team in April, 2009.

The protocol includes both effectiveness and implementation monitoring components. The effectiveness monitoring is to determine the contribution of human-caused disturbance associated with Forest management on the distribution and abundance of invasive plants on the Forest. The implementation monitoring is to determine if projects are being implemented consistent with invasive plant standards and guidelines specified in the Forest Plan and in project specific mitigation measures. Under the protocol, most of the monitoring would be reported on every five years (beginning in 2012).

As specified in the protocol, invasive plant control project monitoring is conducted annually to assess treatment effectiveness towards meeting the Forest Plan goal to “reduce areas of current infestation”. In FY2009, as documented in FACTS, the average effectiveness of the manual invasive plants treatments used on the Forest was estimated at about 45%. Future effectiveness could potentially be increased by supplementing the manual methods with herbicide treatments.

#### **WC MON06 – Dusky Nest Island Monitoring**

**\$33,762 – CRD**

**Target: 1 monitoring requirement (completed)**

Artificial nest islands have proven an effective method for increasing nest success in dusky Canada geese. Currently we have 330 artificial nest islands on the Copper River Delta that provide safe nesting areas. Data from this project show that nests on islands are twice as likely to succeed as nests on shore. All nest islands were monitored in 2009 and pertinent data was recorded. These data were subsequently included in the annual Dusky Nest Island report and also presented to the Pacific Flyway Council Dusky Canada Goose subcommittee.

#### **WC MON07 – Monitoring Kenai Brown Bear Densities**

**\$105,701 – (18.8K SO, 8K GRD, 79K SRD)**

**Target: 1 monitoring requirement (completed)**

This project directly addresses the Forest Plan monitoring question #12. What are the population trends for Kenai brown bears and their relationship to habitat change? In order to accomplish this landscape level project, it relies on interagency collaboration. As directed by the Kenai Brown Bear Policy and Management Group, biologists from Kenai Fjords National Park, Kenai National Wildlife Refuge, and Chugach National

Forest have worked together to complete a detailed study plan for a DNA-based mark-recapture population estimate for brown bears on the Kenai Peninsula. The study is designed to noninvasively collect brown bear hair at barbed-wire hair traps systematically distributed on a grid of 180 9 km x 9 km cells from 1 June to 24 July 2009. Trap session length will be 9 days with five consecutive sessions for a total of 54 days. Traps will be moved within cells at least once during the study to minimize potential behavioral habituation and increase the likelihood of encountering new bears. Areas to be excluded from sampling include the Harding Icefield; water bodies; areas adjacent to dwellings, roads, trails, or campgrounds (per ADF&G black bear baiting restrictions); and other areas of the peninsula where evidence of brown bear presence is scarce or nonexistent. Areas proposed for sampling are illustrated in the attached maps. We've overlaid 154,000 locations of 186 radio-collared female brown bears from 1995-2007 to evaluate our study area boundaries, and feel confident that the geographic limits of our study effectively reflect those of a closed population.

Information on all previously "marked" bears (i.e., those individually genetically identified) would be beneficial to this study as would information on all bears removed from the population (by DLP, vehicle collision, or harvest). Personnel on this project would set hair snares and collect samples within grid cells. Samples will be sent to the lab for analyses. The results of the data would be analyzed by an Interagency team of biologist and Dr Gary White of Colorado State University. A progress report would be provided in fall of 2010 and a final report would be generated by 2011. The Kenai National Wildlife Refuge will direct all day-to-day field operations including supervision of seasonal field staff, oversight of helicopter contract, and sample/data management.

#### **WC MON08 – Research Natural Areas Monitoring**

**\$2,874 – SO**

**Target: 1 monitoring requirement (completed)**

The August 14, 2007 version of the research natural areas monitoring protocol was approved as final by the Forest Leadership Team in 2007.

This monitoring documents the ways that each of the Research Natural Areas (RNAs) on the Forest are being managed in a manner consistent with Standards and Guidelines and the RNA Management Area Prescription specified in the Forest Plan.

As specified in the protocol, database (e.g., PALS, FACTS) reviews are conducted annually to ascertain compliance with Standards and Guidelines and the RNA Management Area Prescription specified in the Forest Plan. In FY2009, no cases of non-compliance were documented for any of the five RNAs on the Forest. On site monitoring under the protocol occurs every five years (beginning in 2012).

#### **WC MON09 – Black Oystercatcher Monitoring**

**\$36,881 – (18.4K GRD, 18.4K CRD)**

**Target: 1 monitoring requirement (completed)**

Black oystercatchers have been identified as a Region 10 sensitive species and a Management Indicator species. In 2009, the Cordova Ranger District monitored

coastlines for oystercatcher nests from Cordova to Sheep Bay. All data was compiled and added to the ongoing maps and database for this species. The Glacier Ranger District piloted a double-observer method for shoreline inventory at Harriman Fiord/Barry Arm as well as Montague and Green islands. Using data from both efforts a draft monitoring protocol has been produced with statistical and design support from West Inc. This protocol will be used to implement Forest Plan monitoring on a Sound-wide scale.

#### **WC MON10 – Monitoring Soil Condition**

**\$20,289 – SO**

**Target: 1 monitoring requirement (monitoring accomplished, report in progress)**

The proposed Chugach National Forest soil monitoring protocol was applied to a selected large project that was judged to be the most likely to have ground disturbance of the types that are categorized as detrimental in the protocol. The project is a heavily thinned and piled, forest stand (Old Sterling, Seward district) on moderate to moderately steep slopes. Though the over story and middle vegetation layers were severely manipulated from cutting and piling, ground disturbance was nil. Disturbance to the ground vegetation was relatively high, most likely to meet the fuels objectives; disturbance to the forest floor organic layers varied but was low overall. In no cases where the organics were disturbed was the mineral soil disturbed. In the disturbance criteria of the protocol, less than one percent of the area surveyed was disturbed and none of it rated detrimentally disturbed. A full report is in progress. Slash has not yet been burned. A survey for burn severity will be made after the slash is burned.

#### **WC MON11 – Trumpeter Swan Monitoring**

**\$10,000 – CRD**

**Target: 1 monitoring requirement (completed)**

The Copper River Delta, Bering Lake, and Bering River Delta areas support approximately 6% of the nation's population of trumpeter swans. Bering Lake attracts up to 800 swans during spring and fall staging, and supports up to 100 swans over summer. Spring swan surveys of the Copper River Delta have been conducted for over 20 years, making this one of the most complete data sets available on breeding trumpeter swans. Continued surveys are needed to determine effects of human activity on this important breeding population. In 2009, we cooperated with the USFWS to conduct a complete survey of the Copper River Delta. This survey will be used to track trends over time when compared with previous years..

#### **WC MON12 – Moose Biomass and Model**

**\$13,807 – CRD**

**Target: 1 monitoring requirement (completed)**

In 2009, District staff in collaboration with the Alaska Department of Fish and Game and the University of Alaska Anchorage collected woody vegetation biomass data on the Copper River Delta. A total of 20 plots were sampled and these data were entered into the moose biomass model developed by UAA and the USFS PNW research station.

### **WC MON13 – Sensitive Plants Monitoring**

**\$2,874 – SO**

**Target: 1 monitoring requirement (completed)**

The April 21, 2009 version of the sensitive plants monitoring protocol was approved as final by the Forest Leadership Team in April, 2009.

This monitoring evaluates the likelihood that Forest management activities are contributing to a downward trend in sensitive plant populations. Both effectiveness and implementation monitoring components are included. The effectiveness monitoring is to determine whether sensitive plant population abundance or distribution is changing in areas where management activities are occurring. The implementation monitoring is to determine the extent to which mitigation measures from biological evaluations (BEs) and other botanical input are carried into NEPA documents, incorporated into decisions and permits, and finally implemented. Under the protocol, reporting occurs every five years (beginning in 2012), data entry to NRIS TESP occurs annually, and once there are at least five populations available for sampling annual effectiveness monitoring occur.

In FY2009, one sensitive plant species (pale poppy – *Papaver alboroseum*) was found in surveys of project areas as documented in biological evaluations. Mitigation measures from the BE will be carried forward into the environmental assessment for the project (Avalanche Acres Hazardous Fuels Reduction Project). There are fewer than five known instances of overlap of sensitive plant populations and areas of active management.

### **WC MON14 – Ecosystem Change Monitoring**

**\$2,874 – SO**

**Target: 1 monitoring requirement (completed)**

The May 6, 2009 version of the ecosystem change monitoring protocol was approved as final by the Forest Leadership Team in June, 2009.

This monitoring summarizes trends in ecosystem composition and structural attributes across the Forest to identify if and where there are changes of sufficient magnitude to be of concern to management. Under the protocol, reports with interpretations would be generated every five years (beginning in 2012)

In FY2009, Forest Inventory and Analysis (FIA) grid inventory data was to be summarized to describe baseline vegetation compositional and structural diversity changes Forest wide and by geographic area (Kenai Peninsula, Prince William Sound, and Copper River Delta). However, these summarizes could not be accomplished because FIA data from multiple time steps (remeasurement data) for the area were not available in FY2009.

A final report regarding an application of part of the protocol was completed by the Remote Sensing Application Center (RSAC) in January 2009 (RSAC-2102-RPT1). Specifically, RSAC investigated use of vegetation indices to detect change between two Moderate Resolution Spectroradiometer (MODIS) satellite image dates. If the analysis

and reporting schedule in the protocol are followed, the MODIS change detection methods will be applied operationally in the 2012.

### **NFIM Inventory**

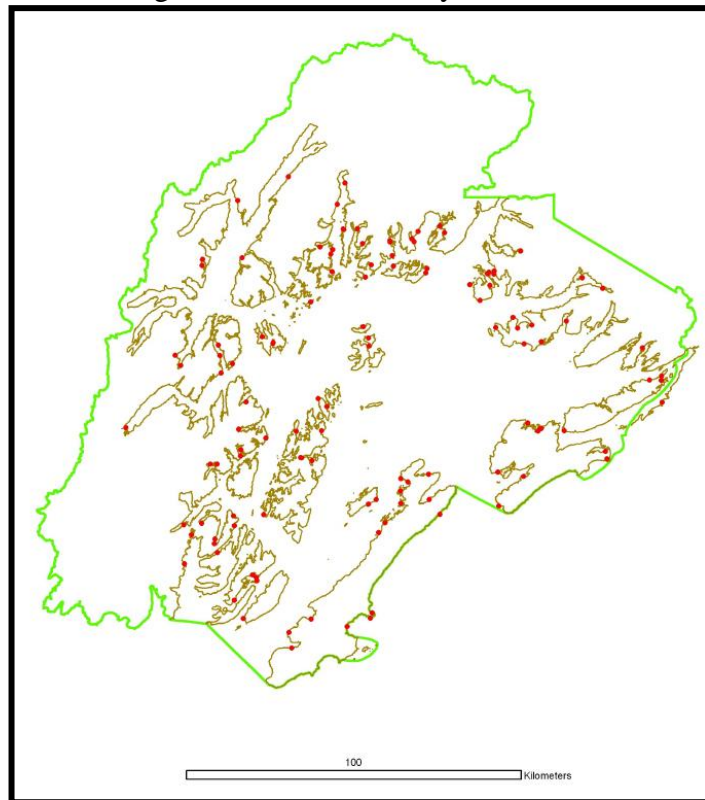
#### **WC INV01 – Shoreline Rare Plant Inventory \$22,533 – (2.4K SO, 13.9K GRD, 6.3K CRD)**

**Target: 600,000 inventory acres (inventory accomplished; entered into NRIS TESP)**

This work completed in Prince William Sound (PWS) on the Glacier and Cordova ranger districts. A standardized inventory of plant species occurrences and frequencies was completed along the PWS shoreline. The data collected followed the sensitive species survey form. The majority of plots were located using a random selection of points along the entire shoreline of PWS, including islands (see map). In addition to the random points, additional points were selected in areas of known unique flora or unique mafic geologies. A total of 97 plots were completed in 2009 and 371 species of plant were documented. Herbarium specimens were also collected and will be housed at the University of Alaska Fairbanks Herbarium (ALA). Contract boats supported work on the western portion of the sound whereas; Forest Service boats were used on the eastern half. We contracted with botanists from the University of Alaska Anchorage (UAA) and retired UAA botanist. In addition, we received volunteer assistance from the retired UAA botanist and a retired herbarium manager from the University of Alaska Fairbanks.

Regional botanist Mary Stensvold assisted with this project.

Note: \$16,000 of NFWF funds were combined with the \$22,533 of NFIM funds to cover boat contracting costs. See NFWF Botany work chunk “WC05 – PWS Shoreline Rare Plant Inventory (Boat Contract Overrun)”. The 600,000 acres of accomplishment was estimated based on 5,000,000 meters of shoreline randomly sampled in the project with sample points averaging within 500 meters of the coast.



*120 random points along the Prince William Sound shoreline.*

## **WC INV02 – Copper River Delta Vegetation Mapping**

**\$108,600 – (2.3K SO, 106.3K CRD)**

**Target: 0 (imagery acquired covering approximately 750,000 acres of land)**

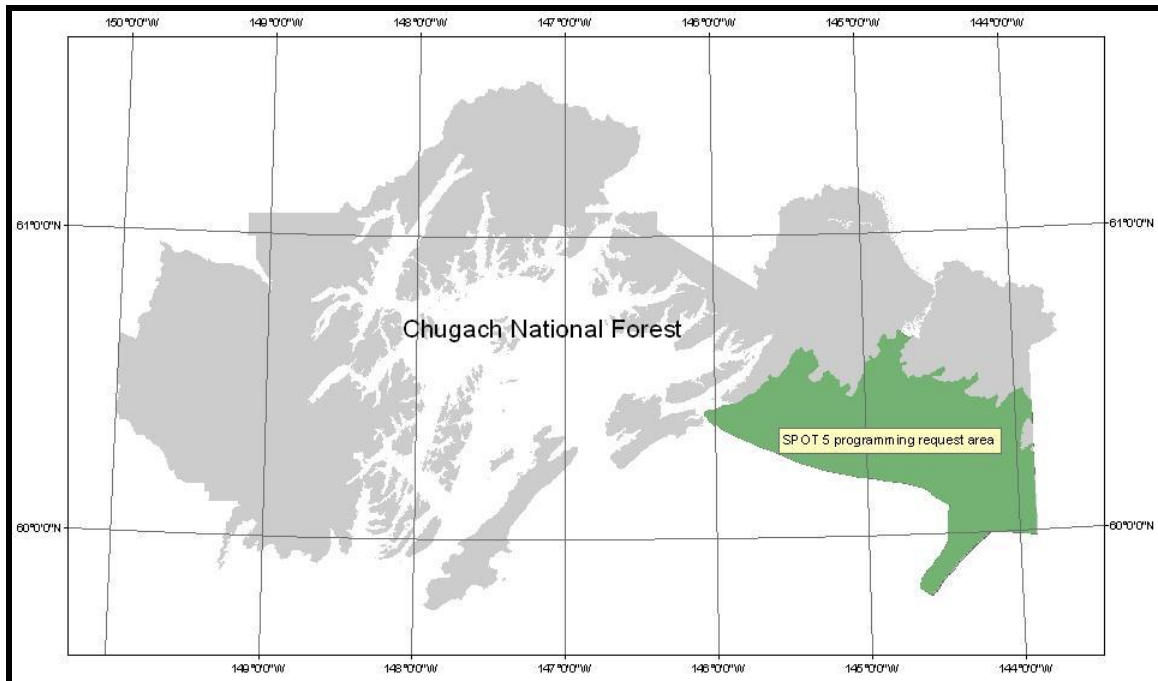
Current and accurate vegetation maps are needed for monitoring and evaluation of habitat for wildlife species in the Copper River Delta. Vegetation maps currently available for the area are outdated, too coarse, or inaccurate to analyze habitats used by moose, dusky Canada geese, trumpeter swans, and other species of interest. In addition to wildlife habitat assessment, a map of existing vegetation would be useful in a wide range of applications including land management planning, ecosystem assessment, inventory, rare and sensitive species modeling, invasive species modeling, recreational activity management, and climate change analyses.

This project was initiated to create an existing vegetation map built on state of science methods. Specifically, a dominance type map will be developed using 5-meter panchromatic and 10-meter multispectral SPOT 5 satellite imagery. This is a three year project involving active participation by specialists from the District, Forest, Regional Office, Washington Office (Remote Sensing Application Center), and a cooperator (potentially Ducks Unlimited under a Challenge Cost Share Agreement).

The work was initiated in FY2009 with key accomplishments:

1. Development of a draft study plan.
2. Collection and acquisition of the SPOT imagery (using \$50K of NFIM funds from the RO). The map below shows the area of interest for image acquisition.
3. Finalization of a authorization for in-service expenditure (ISA) with the Remote Sensing Application Center (RSAC) for their contribution towards finalizing methods, reporting and documentation, image processing, image classification, accuracy assessment, and final mapping components of project. The total cost in this ISA is \$185K of NFIM funds (\$115K from the Forest and \$70K from the RO).
4. Discussions were initiated with Ducks Unlimited for their potential role in field data collection in 2010.

Primary work in FY2010 will include development of agreements with cooperators, image preprocessing, and field data collection. Final classification of the imagery, accuracy assessment, and final mapping and reporting is anticipated for FY2011.



*The Copper River Delta vegetation mapping area encompassing approximately 300,000 ha (around 750,000 acres) of land.*

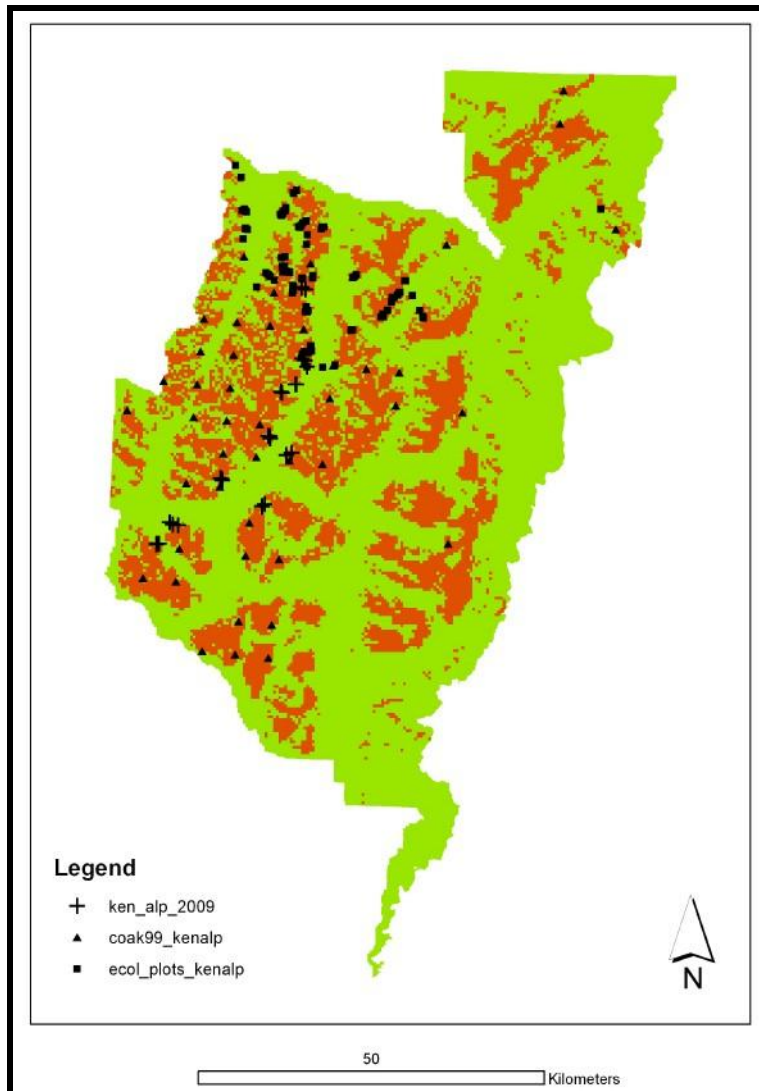
#### **WC INV03 – Kenai Alpine Vegetation Inventory**

**\$36,970 – (20K SO, 6.2K GRD, 10.8K SRD)**

**Target: not defined (28 records entered into NRIS Rangeland Inventory and Monitoring)**

This project expands the sample of vegetation and environmental combinations in the vegetated portion of the alpine zone of the Kenai Peninsula Geographic Area for application in wildlife and plant habitat evaluations. In this work, the “alpine zone” was defined based on the “bioenvironmental” database developed for the Chugach Forest Plan FEIS. The bioenvironmental database was derived from an aggregation of climatic, landcover, and landform characteristics. There are approximately 145,000 ha (360,000 acres) of alpine bioenvironments (brown shading on map) on the Kenai portion of the Forest. Data collection followed the site general and ocular macroplot protocols of NRIS Rangeland Inventory and Monitoring.

Data from 187 sample plots have been compiled for analysis. 28 of the plots are ocular macroplots from 2009 sampling and 114 are ocular macroplots from 1992-1994 sampling by the Chugach Ecology Program (+ signs and squares on map, respectively). 45 are Forest Inventory and Analysis (FIA) plots from 1999 (triangles on map). The 142 ocular macroplots have all been entered into the NRIS Rangeland Inventory and Monitoring. Analyses and reporting will be completed in 2010 to include clustering, ordination, and summaries of structure and composition.



*Alpine zone vegetation plots in the Kenai Geographic Area.*

#### **WC INV04 – Migration of Sensitive Plant Data to NRIS TESP**

**\$17,658 – (12.7K SO, 2.5K GRD, 1.1K CRD, 1.3K SRD)**

**Target: 0 (24 element occurrence and 199 survey records entered into NRIS TESP)**

Element occurrence and survey records from Chugach National Forest surveys, the Alaska Natural Heritage Program, and the University of Alaska Fairbanks Herbarium (ALA) were entered into NRIS TESP. Element records included occurrences of the Alaska Region sensitive plants: Eschscholtz's little nightmare (*Aphragmus eschscholtzianus*), sessileleaf scurvygrass (*Cochlearia sessilifolia*), spotted lady's slipper (*Cypripedium guttatum*), and pale poppy (*Papaver alboroseum*).

#### **WC INV05 – Soil Resource Inventory Data Migration to NRIS**

**\$16,900 – SO**

**Target: 20,000 acres (classification accomplished, data migration in progress)**

The Forest legacy soil data were migrated from local databases to the Natural Resources Information System (NRIS) for land systems in the land type association GIS map layer.

The migration produced a list of errors, including some unknown unit delineations. This project was designed to address the most significant group of errors including the determination of a fix for them. The bulk of the error list occurs on the Cordova district in the Copper River Delta area. With the assistance of Dean Davidson, former Chugach soil scientist, developer of the local map legend, and collector/co-collector of much of the migrated data, we traversed pre-selected map unit delineations which had never been visited as part of the inventory before, and others whose properties were determined to meet the map unit classification criteria. These units and those found to be similar were locally correlated. Map unit and ancillary data were recorded, boundaries checked and modified as needed, and NRIS data corrected or updated for approximately 20,000 acres. Uploads to the database are ongoing.

#### **WC INV06 – Intensive Management Invasive Plant Inventory**

**\$28,330 – (10.7K SO, 9.4K GRD, 3.9K CRD, 4.4K SRD)**

**Target: not defined (1,800 inventory acres; data not yet entered into NRIS)**

There has been extensive inventory of invasive plants along roads and trails and backcountry areas on the Forest. Most occurrences of invasive plants on the Forest occur in areas of human caused disturbance. The NRIS invasive species survey and inventory protocols were used to augment the previous surveys by documenting invasive species occurrences in selected areas of historic vegetation management activity. The greatest amount of intensive management on the Forest has occurred in the Kenai Peninsula geographic area so most of the data were collected on the Kenai. In surveys of vegetation management areas in Prince William Sound the only invasive plants encountered were dandelions (*Taraxacum officinale*) at a former log transfer site.

The general finding is that invasive plants within historic vegetation management areas on the Forest are primarily along the access roads and trails (photo on left). Portions of vegetation treatment units outside the road/trail edge are generally free of invasives (photo on right).

Note: The 1,800 acres accomplished is the total acres in FACTS polygons (from the Chugach GIS) that were surveyed for invasive plants in this project. Data entry to NRIS TESP-Invasive Species will be completed in 2010.



*Reed canarygrass (Phalaris arundinacea) along access road to a logging unit (left) and absence of invasives in a unit logged in May of 1993(right).*

#### **WC INV07 – Wildlife Legacy Data Migration to NRIS**

**\$15,000 – SO, CRD**

**Target: not defined**

The data that had been previously migrated into NRIS FAUNA and then was migrated to NRIS Wildlife was looked at and analyzed for errors. Also the repercussions from the changing of survey data from spatial and tabular records in FAUNA to tabular survey records and/or site records in Wildlife. Forest and NRIS employees:

- Re-aligned mountain goat data and develop a naming convention.
- Developed a plan for spatially designating survey sites from actual goat sites. Data was then manipulated inside the Wildlife data base to meet these new criteria, both tabular and spatial.
- Started re-aligning and identifying possible naming conventions for the swan and dusky nest island data.
- Developed a strategy to deal with the survey/site polygon migration issues, orphan records and re-associations that will need to be dealt with these two large datasets.
- Discussed the possibility of using the DX tool to re-migrate these two datasets and met with the NRIS team about this possibility and what would be involved with this route.

Also, meetings and work was done on developing business rules for the Region and the Forest. This process is on-going. Some ground rules were established about incidental

observations on the Forest. The mountain goat naming was used as an example of possible naming standards for the Forest. A list of data sets that need to be migrated or input into Wildlife and the current format of the datasets (paper, electronic) was created for the Forest.

#### **WC INV08 – AKEPIC Database**

**\$1,000 – SO**

**Target: not defined**

The AKEPIC (Alaska Exotic Plant Information Clearinghouse) database is the primary repository of data on the distribution and abundance of exotic and invasive plant species in Alaska. Covered here is the Chugach NF estimated contribution to maintain this database in FY2009. A mechanism to contribute these funds in a cost effective manner was not discovered in 2009 so the funds were used instead for in house NRIS TESP-Invasive Species work. Future plans include application of export utilities to extract NRIS TESP-Invasive Species data into a suitable format to be uploaded into AKEPIC.

Note: Approximately 8850 inventory records (mostly from the 2007 roadside surveys) from the Chugach were migrated to NRIS TESP-Invasive Species during FY2009.

#### **WC INV10 – GIS Vertical Integration**

**\$47,017 – SO**

**Target: required (completed)**

This project used digital orthophoto quarter quads and other imagery to improve the spatial accuracy of the GIS data. For example:

- Equivalent of 70,000 acres for integration of roads and trails to orthophotography (based on 100' either side of centerline for roads and 25' either side of centerline for trails).
- New shoreline was created to be used to vertically integrate the shoreline in all polygon feature classes that contain the shoreline. It will also be used by ALP, so these data can be used successfully with the rest of the Chugach spatial data. It will also be used to update the NHD. Common boundary discussions are under way with the Park Service and Refuge which will result in modifications to the Forest boundary. (shoreline feature class 4750 miles, the data resides at the EDC; common boundary on Resurrection River 1000 acres)
- Portage Window shoreline/tideland issue – adjusted the shoreline to exclude State conveyed tideland we just became aware of in the Portage Window. (1 mile)
- Continued work with the RO on validating the ALP data. There are still significant problems with the Chugach ALP data.
- All GIS staff completed NHD Conflation Tool Training to assist in the integration of legacy data onto the National Hydrography Dataset.

#### **WC INV12 – Inventory of Kenai Mountain Goat Habitat**

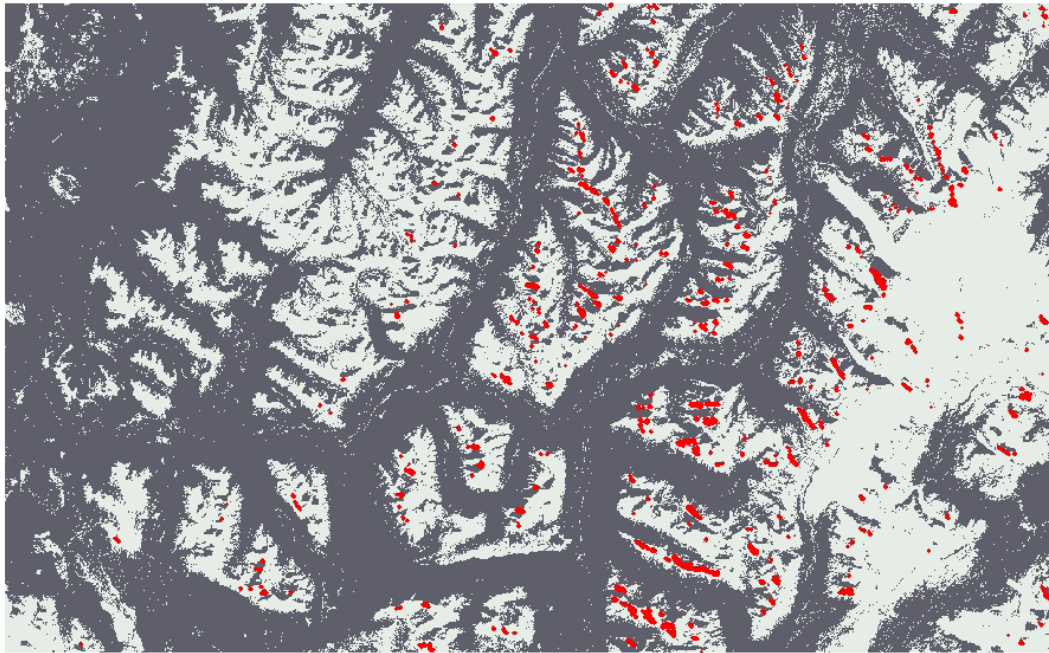
**\$50,000 – SO**

**Target: not defined**

This project used GPS telemetry data from goats collared in FY 2006 through 2008 to produce an inventory of summer and winter habitat. These data were processed,

analyzed and the results summarized by the University of New Mexico – Nepali Study Center under an agreement with the FS. Inventoried mountain goat habitat from this project was also used for the purpose of understanding the influence of winter recreation on ungulates which is the Forest monitoring question #16. An example of the output is provided below and the final report will be provided to the Forest in 2010.

### Potential Habitat for Mountain Goat



*Potential mountain goat habitat (in red) for the Kenai Peninsula identified from modeling GPS collar data.*

### **NFIM Planning and Manage Natural Resource Information**

#### **WC PLN01 – NRIS Coordination, Management, and Services**

**\$84,904 – SO**

##### **Target: not defined**

The management of Forest Service Natural Resource Applications (FSNRAs) on the Chugach NF includes the maintenance of the NRIS and GIS for the Forest. This work includes installing and updating software, developing tools and processes to access and manipulate data, designing and documenting system protocols and standards, coordinating with Ranger District and Regional Office NRIS and GIS personnel, providing application-specific coordination and maintenance of shared data tables,

providing application technical support, client version assistance, data synchronization, providing training and user support, and related activities.

Wildlife business rules – Efforts were coordinated among SO and district wildlife data stewards to develop business rules for entry of wildlife data into the NRIS module.

The status and progress of correction, revisions, and updating of the Watershed Boundary Dataset covering the Chugach National Forest was monitored. Certification of this dataset is expected to occur in fy2010. (Data is at /fsfiles/unit/layers/Watershed.) GIS continues to participate in development of stewardship agreements for the State of Alaska for the National Hydrography Dataset.

GIS reviewed the Forest Service new web site format and provided info and maps.

### **WC PLN02 – National Data Migration to NITC**

**\$80,930 – SO**

**Target: not defined**

Nationally required data migration to NITC. Funding was required for subject-matter experts to help clean and prepare data for the Data Center Environment at FS-NITC.

Example tasks completed included:

- All GIS staff completed the SDE workflows training for working in the DCE, and established access to the EDC.
- Ensured base-level Chugach NF data were loaded at EDC for use with the Wildlife and Water NRIS training sessions and the migration data validated.
- Updated data layers (3 times during FY09) used by the GI (over 50 feature classes) in SDE at EDC and made them available for use on individual c: drives. The data stored locally on the j: drive was also updated.
- Continued clean-up and archiving of legacy data. Worked to ensure metadata for all feature classes was adequate. Developed a draft file structure to store GIS data on the T drive.
- Created a version of the Chugach data at EDC for the Heritage staff and assisted them in editing it and keeping the version reconciled with the parent version. Heritage data is fully migrated to EDC and being maintained there.
- Cleaned-up and/or archived 70% of the ‘corporate’ geospatial data on CNF. Datasets in coverage format were converted to PGDBs. Metadata was updated. The following layers were migrated: Fire polygons, Fire points, Trails, Timber Type.

### **WC PLN03 – Geospatial Interface Implementation and Maintenance**

**\$15,000 – SO**

**Target: not defined**

Tasks completed included:

- Installed the GI on computers at CRD, SRD and in the SO.
- Assisted in the GI Rollout in JNU.
- Attended advanced GI RegTool training to be able to produce products for users to accomplish tasks

- Wrote GI visualizations and ArcMap tools as requested by Heritage to assist in data entry.
- Wrote a R10 GI Products and User Guide to assist users in using the GI.

#### **WC PLN07 – GIS Program Management**

**\$20,000 – SO**

**Target: not defined**

Tasks completed included:

- Functional assistance trip to CRD. Functional assistance trips to KLWC related to fire and fuels management. ArcGIS assistance to FSL – intermittent throughout year.
- CNF Transition efforts – conference calls, meetings, preparing Operating Agreements, budgets, etc to assist in the formation of the most effective GIS organization for the Chugach.
- Administrative tasks of work planning, budgeting, and accomplishment tracking were completed. Planning staff completed all mandatory trainings.

#### **WC PLN09 – Environmental Management System**

**\$30,000 – SO**

**Target: not defined**

Assisted in the completion of the Chugach FY 2008 Energy and Environmental Footprint survey due November 21, 2008.

All Chugach employees were required take EMS 101 or the EMS refresher to meet the national standards for EMS in 2009. All nonresponsive Chugach employees listed in the Chugach phone directory were contacted by email and phone to certify if they had taken EMS 101 or the EMS refresher by Sept 30 2009. All permanent employees on the Chugach phone list were confirmed as taking the training.

As a part of EMS, EO 13423 and EO 13148, the Forest EMS coordinator prepared an Environmental Inventory, Sustainability Action Plan, Sustainable Leadership and Implementation Plan contract. The contract was awarded in FY 09 and will be completed in FY 10. It will provide a base to help meet the “plan-do-check” requirements in the EMS cycle in future years and assist meeting the EO requirements.

*THE END*